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PATENT & TRADEMARK OFFICE

PATENT
Attorney Docket No. 09812.0172

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	)	
	)	
Toru MINEYAMA et al.	)	Group Art Unit: 3622
	)	
Application No.: 09/973,512	)	Examiner: John W. Van Bramer
	)	
Filed: October 9, 2001	)	Confirmation Number: 6341
	)	
For: SERVER OPERATIONAL EXPENSES COLLECTING METHOD, AND APPARATUS THEREFOR	)	

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

SUBMISSION OF CERTIFIED ENGLISH TRANSLATION OF PRIORITY DOCUMENT

Enclosed herewith is a certified English translation of Japanese priority document JP 2000-309796, filed October 10, 2000. The attached Certified Translation includes a statement from the translator that the English translation is accurate. In accordance with 37 C.F.R. § 1.55(a), Applicants hereby perfect claim of priority under 35 U.S.C. § 119 by filing this certified translation.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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Dated: March 13, 2008

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APPLICANT: Toru Mineyama, et al. GROUP ART UNIT: 3622

APPLICATION NO.: 09/973,512 EXAMINER: John W. Van Bramer

FILING DATE: October 9, 2001 CONFIRMATION No.:6341

TITLE: SERVER OPERATIONAL EXPENSES COLLECTING METHOD, AND APPARATUS THEREFOR

Hon. Commissioner of Patents and Trademarks,
Washington, D.C. 20231

S I R:

CERTIFIED TRANSLATION

I, Masaaki Iwami of 3-22, Asagaya-minami 1-chome, Suginami-ku, Tokyo, Japan, am an experienced translator of the Japanese language into the English language and I hereby certify that the attached comprises an accurate translation into English of Japanese Patent Application No. 2000-309796 filed October 10, 2000.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

February 26, 2008
Date

Masaaki IWAMI

OTPE IAP20 MAR 13 2006 PATENT & TRADEMARK OFFICE

[Name of Document] Specification

[Title of the Invention] Server Operational Expenses Collecting Method, and Apparatus

[What is Claimed is]

[Claim 1] A server operational expenses collecting method for a server which transmits via the Internet an electronic program guide to a terminal apparatus operated by a user, said server

generating customer analysis information on the basis of personal information of said user inputted from said terminal apparatus and program viewing log information about a program viewed by said user on said terminal apparatus;

generating a second electronic program guide by reorganizing a first electronic program guide in accordance with the preference of said user on the basis of the generated customer analysis information;

providing said generated customer analysis information to an advertiser who practices an advertising campaign to said terminal apparatus; and

in response to the provision of said customer analysis information to said advertiser, collecting the expenses, in a predetermined amount, for the provision of said customer analysis information from said advertiser.

[Claim 2] A server operational expenses collecting method for a server which transmits via the Internet an electronic program guide to a terminal apparatus operated by a user, said server

generating a second electronic program guide by reorganizing a first electronic program guide in accordance with the preference of said user;

generating a third electronic program guide obtained by inserting an advertisement program into said second electronic program guide;

in response to a command issued by said user from said terminal apparatus via the Internet, transmitting one of said second electronic program guide and said third electronic program guide; and

collecting an advertisement program insertion reject charge in a predetermined amount in accordance with the rejection of inserting said advertisement program from said user who requested the reception of said second electronic program guide.

[Claim 3] A server operational expenses collecting method for a server which transmits via the Internet an electronic program guide to a terminal apparatus operated by a user, said server

generating a second electronic program guide by

reorganizing a first electronic program guide in accordance with the preference of said user;

setting preset recording of a program listed in said second electronic program guide to said terminal apparatus via the Internet; and

in accordance with the setting of preset recording of said program, collecting preset recording setting expenses in a predetermined amount from said user.

[Claim 4] A server operational expenses collecting method for a server which transmits via the Internet an electronic program guide to a terminal apparatus operated by a user, said server

generating a second electronic program guide by reorganizing a first electronic program guide in accordance with the preference of said user;

generating a third electronic program guide obtained by inserting an advertisement program into the generated second electronic program guide;

in response to a command issued by said user from said terminal apparatus via the Internet, setting preset recording of a program listed in one of said second electronic program guide and said third electronic program guide; and

collecting an advertisement program insertion

reject charge in a predetermined amount in accordance with the rejection of inserting said advertisement program from said user who requested the setting of preset recording of said program listed in said second electronic program guide.

[Claim 5] A server operational expenses collecting method for a server which transmits via the Internet an electronic program guide to a mobile terminal apparatus operated by a user,

said user setting via the Internet the preset recording of a program listed in said electronic program guide from said mobile terminal to a remote terminal apparatus; and

said server, in response to the setting of preset recording of said program, collecting a predetermined preset recording setting fee from said user.

[Claim 6] A server operational expenses collecting method for a server which transmits via the Internet an electronic program guide to a mobile terminal apparatus operated by a user, said server

generating a second electronic program guide by inserting an advertisement program into a first electronic program guide;

in response to a command issued by said user from

said mobile terminal apparatus via the Internet, setting the preset recording of a program listed in one of said first electronic program guide and said second electronic program guide to a terminal apparatus; and

collecting an advertisement program insertion reject charge in a predetermined amount in accordance with the rejection of inserting said advertisement program from said user who requested the setting of preset recording of said program listed in said first electronic program guide.

[Claim 7] A server operational expenses collecting method for a server which transmits via the Internet an electronic program guide to a mobile terminal apparatus operated by a user, said server

generating a second electronic program guide by reorganizing a first electronic program guide in accordance with the preference of said user;

generating a third electronic program guide by inserting an advertisement program into said generated second electronic program guide;

in response to a command issued by said user from said mobile terminal apparatus via the Internet, setting the preset recording of a program listed in one of said second electronic program guide and said third electronic

program guide to a terminal apparatus; and

collecting an advertisement program insertion reject charge in a predetermined amount in accordance with the rejection of inserting said advertisement program from said user who requested the setting of preset recording of said program listed in said second electronic program guide.

[Claim 8] A server operational expenses collecting method for a server which transmits via the Internet an electronic program guide to a terminal apparatus operated by a user, said server

in response to displaying an address indicative of a location on the Internet of program-associated information, which is information associated with a program listed in said electronic program guide, collecting a predetermined address placement fee from an advertiser who provides said program-associated information and practices an advertisement campaign to said terminal apparatus.

[Detailed Description of the Invention]

[0001]

[Technical Field to which the Invention Pertains]

The present invention relates generally to server operational expenses collecting method and apparatus for

collecting the service operational expenses in services for providing via the Internet the program information about programs to be broadcast.

[0002]

[Prior Art]

In the digital multichannel broadcasting, programs are provided over several tens to several hundreds of channels. This increases the number of user options while making the program selecting operations by users extremely complicating. To overcome this problem, the digital multichannel broadcasting practices the program information providing services based on EPG (Electronic Program Guide) which provides program guides and information about the contents of each individual program.

[0003]

The above-mentioned EPG provided by the digital multichannel broadcasting is generated and managed by a DMC (Digital Multi Channel) provider. In addition to the EPG generation and management, the DMC provider integrally performs the management of users of digital multichannel broadcasting, the management of channels to be provided for the users, the advertisement of programs, and so on.

[0004]

For a user to use a digital multichannel broadcast service, a STB (Set Top Box), which is an customer premises equipment unit for controlling the reception of an EPG and programs, must be connected to the user's television receiver. The STB receives an EPG having schedule information such as channel numbers in which programs are to be broadcast, the names of the channels and programs, and broadcast date, for example, displaying the received EPG on a screen such as the television receiver. The user can operate the STB by means of its controller to perform channel selection and preset viewing for example.

[0005]

Generally, in using a service based on the digital multichannel broadcasting, the user registers him/herself with the DMC provider and pays a predetermined service fee, upon which the user can receive an EPG and desired channels via the STB.

[0006]

Meanwhile, services have been proposed in which the above-mentioned digital multichannel broadcast is received by a PC (Personal Computer) having television receiver capabilities. In this case, an EPG can be transmitted via the Internet by use of PC's communication

capabilities.

[0007]

The EPG transmission services via the Internet are supported by a server (hereinafter also referred to as an EPG providing server) which purchases the EPGs provided by a DMC provider, converts each purchased DMC into a format which can be transmitted via the Internet, and performs the user management, the management of channels to be provided for users, and program advertisement, which have hitherto been performed by DMC providers.

[0008]

This EPG providing server covers its server operating expenses by collecting advertisement charges in accordance with the number of times a user clicks a banner advertisement for example inserted in a program to be broadcast or an EPG or in accordance with the number of times a banner advertisement is exposed, by collecting the money or intermediate margin for independent products or products associated with a program sold on a network, or by collecting the membership registration fees from users at certain intervals.

[0009]

[Problem to be Solved by the Invention]

The EPG providing server which transmits EPGs via

the Internet and provides the digital multichannel broadcast programs is capable of providing various new services in addition to those described above in the methods of providing EPGs to users, preset recording of programs, and placing advertisements.

[0010]

It is therefore an object of the present invention to provide server operational expenses collecting method and apparatus for an EPG providing server of making profits to be derived from the service provision by the EPG providing server by use of the Internet.

[0011]

[Means for Solving the Problem]

In carrying out the invention and according to one aspect thereof, there is provided a server operational expenses collecting method for a server which transmits via the Internet an electronic program guide to a terminal apparatus operated by a user, the server generating customer analysis information on the basis of personal information of the user inputted from the terminal apparatus and program viewing log information about a program viewed by the user on the terminal apparatus; generating a second electronic program guide by reorganizing a first electronic program guide in

accordance with the preference of the user on the basis of the generated customer analysis information; providing the generated customer analysis information to an advertiser who practices an advertising campaign to the terminal apparatus; and in response to the provision of the customer analysis information to the advertiser, collecting the expenses, in a predetermined amount, for the provision of the customer analysis information from the advertiser.

[0012]

In carrying out the invention and according to another aspect thereof, there is provided a server operational expenses collecting method for a server which transmits via the Internet an electronic program guide to a terminal apparatus operated by a user, the server generating a second electronic program guide by reorganizing a first electronic program guide in accordance with the preference of the user; generating a third electronic program guide obtained by inserting an advertisement program into the second electronic program guide; in response to a command issued by the user from the terminal apparatus via the Internet, transmitting one of the second electronic program guide and the third electronic program guide; and collecting an advertisement

program insertion reject charge in a predetermined amount in accordance with the rejection of inserting the advertisement program from the user who requested the reception of the second electronic program guide.

[0013]

In carrying out the invention and according to still another aspect thereof, there is provided a server operational expenses collecting method for a server which transmits via the Internet an electronic program guide to a terminal apparatus operated by a user, the server generating a second electronic program guide by reorganizing a first electronic program guide in accordance with the preference of the user; setting preset recording of a program listed in the second electronic program guide to the terminal apparatus via the Internet; and in accordance with the setting of preset recording of the program, collecting preset recording setting expenses in a predetermined amount from the user.

[0014]

In carrying out the invention and according to yet another aspect thereof, there is provided a server operational expenses collecting method for a server which transmits via the Internet an electronic program guide to

a terminal apparatus operated by a user, the server generating a second electronic program guide by reorganizing a first electronic program guide in accordance with the preference of the user; generating a third electronic program guide obtained by inserting an advertisement program into the generated second electronic program guide; in response to a command issued by the user from the terminal apparatus via the Internet, setting preset recording of a program listed in one of the second electronic program guide and the third electronic program guide; and collecting an advertisement program insertion reject charge in a predetermined amount in accordance with the rejection of inserting the advertisement program from the user who requested the setting of preset recording of the program listed in the second electronic program guide.

[0015]

In carrying out the invention and according to a separate aspect thereof, there is provided a server operational expenses collecting method for a server which transmits via the Internet an electronic program guide to a mobile terminal apparatus operated by a user wherein: the user sets via the Internet the preset recording of a program listed in the electronic program guide from the

mobile terminal to a remote terminal apparatus; and the server, in response to the setting of preset recording of the program, collects a predetermined preset recording setting fee from the user.

[0016]

In carrying out the invention and according to a still separate aspect thereof, there is provided a server operational expenses collecting method for a server which transmits via the Internet an electronic program guide to a mobile terminal apparatus operated by a user, the server generating a second electronic program guide by inserting an advertisement program into a first electronic program guide; in response to a command issued by the user from the mobile terminal apparatus via the Internet, setting the preset recording of a program listed in one of the first electronic program guide and the second electronic program guide to a terminal apparatus; and collecting an advertisement program insertion reject charge in a predetermined amount in accordance with the rejection of inserting the advertisement program from the user who requested the setting of preset recording of the program listed in the first electronic program guide.

[0017]

In carrying out the invention and according to a yet separate aspect thereof, there is provided a server operational expenses collecting method for a server which transmits via the Internet an electronic program guide to a mobile terminal apparatus operated by a user, the server generating a second electronic program guide by reorganizing a first electronic program guide in accordance with the preference of the user; generating a third electronic program guide by inserting an advertisement program into the generated second electronic program guide; in response to a command issued by the user from the mobile terminal apparatus via the Internet, setting the preset recording of a program listed in one of the second electronic program guide and the third electronic program guide to a terminal apparatus; and collecting an advertisement program insertion reject charge in a predetermined amount in accordance with the rejection of inserting the advertisement program from the user who requested the setting of preset recording of the program listed in the second electronic program guide.

[0018]

In carrying out the invention and according to a different aspect thereof, there is provided a server

operational expenses collecting method for a server which transmits via the Internet an electronic program guide to a terminal apparatus operated by a user, the server, in response to displaying an address indicative of a location on the Internet of program-associated information, which is information associated with a program listed in the electronic program guide, collecting a predetermined address placement fee from an advertiser who provides the program-associated information and practices an advertisement campaign to the terminal apparatus.

[0019]

[Mode for Carrying Out the Invention]

Preferred embodiments of a server operational expanses collecting method according to the invention will be described in detail with reference to the accompanying drawings.

[0020]

The present invention is applied to a program service providing system 1 as shown in FIG. 1.

[0021]

The program service providing system 1 includes a terminal apparatus (operated by a user) 2, a commissioning broadcast provider 3, an advertiser 4, a

DMC (Digital Multi Channel) provider 5, and a program service providing apparatus 6.

[0022]

The terminal apparatus 2 is a PC (Parsonal Computer) for example operated by the user and has a display section, not shown, for displaying text information and image information and an input section through which the user inputs predetermined text information and commands for example. The terminal apparatus 2 is also connected to a network to transfer/receive information with the outside via the network.

[0023]

The terminal apparatus 2 also receives service information from the program service providing apparatus 6 and pays a service usage charge for the usage of the received service information to the program service providing apparatus 6 via the network.

[0024]

It should be noted that the terminal apparatus 2 has different configurations depending on the services provided by the program service providing apparatus 6, which will be described later with detail about the description of the respective service. It should also be

noted that, in the following descriptions, the terminal apparatus 2 has different configurations for different services and the terminal apparatus 2 has all of these configurations.

[0025]

The commissioning broadcast provider 3 creates programs to be provided to the user via the terminal apparatus 2 and commissions the created programs to contract broadcast providers such as broadcast stations not shown. The commissioning broadcast provider 3 creates the programs by the advertisement costs paid by the advertiser 4 and inserts an advertisement desired by the advertiser 4 into a predetermined time zone during the broadcasting of a created program. Also, during the broadcasting of a program, the commissioning broadcast provider 3 may use a product which the advertiser 4 wants to advertise. For example, if a program is a drama, products to be advertised may be presented as properties, settings, or costumes to be used in the drama.

[0026]

The advertiser 4 produces, sells, or mediates products which the advertiser 4 wants to provide to the user via the terminal apparatus 2, advertising these products via the programs created by the commissioning

broadcast provider 3. The advertiser 4 provides the advertisement costs to the commissioning broadcast provider 4 in compensation for the insertion of the advertisements in programs.

[0027]

The DMC provider 5 totally administers the broadcasting of the programs created by the commissioning broadcast provider 3, the advertisements, and broadcast time management. In order to totally manage the programs created by the commissioning broadcast provider 3, the DMC provider 5 generates an EPG (Electronic Program Guide). The DMC provider 5 provides the generated EPG to the program service providing apparatus 6 for a predetermined amount of money.

[0028]

The program service providing apparatus 6 pays the predetermined amount of money to the DMC provider 5 to obtain the EPG. The program service providing apparatus 6 provides the following services to the user by use of the provided EPG.

[0029]

The services to be provided by the program service providing apparatus 6 include a service for reorganizing the services based on the EPG generated by the DMC

provider 5 into a more user-friendly, virtual program guide (this server will be hereinafter referred to as a service using a virtual program guide), a service for setting the preset recording of programs from a remote terminal apparatus to a predetermined terminal apparatus (this service will be hereinafter referred to as a remote preset recording service), and a service for providing the program-associated information which is associated with the programs provided by the commissioning broadcast provider 3 (this service will be hereinafter referred to as a service associated with program-associated information). These services are provided to the user at the terminal apparatus 2 via the network.

[0030]

At the same time, the program service providing apparatus 6 collects the service usage charges from the user in accordance with the services provided to the above-mentioned user. The profits obtained by the use of the program service providing system 1 by the advertiser 4, for example, those which are made due to the increase in the sale of advertised products, are partially returned to the program service providing apparatus 6.

[0031]

The following describes the details of the services

to be provided to the user at the terminal apparatus 2 by the program service providing apparatus 6 and methods of collecting the profits incurred from the provision of the services by the program service providing apparatus 6.

[0032]

First, a method of profits collection in the service using a virtual program guide is described in detail.

[0033]

The following describes a virtual channel and a virtual program guide.

[0034]

In television broadcasting, every program is carried on a radio having a predetermined frequency band transmitted from a terrestrial broadcast station, a BS (Broadcasting Satellite), or a CS (Communications Satellite). Each frequency band is numbered for identification, which provides an ordinary channel.

[0035]

On the other hand, a virtual channel, which is not presented by a number assigned to a particular frequency band, is obtained by selecting programs broadcast in an ordinary channel on the basis of user preference and arranging with predetermined rules, thereby making each

program appear as if it were being broadcast in a particular ordinary channel. In other words, a virtual channel is capable of taking all the frequency bands that an ordinary channel has, thereby apparently changing frequency bands for different programs.

[0036]

A virtual program guide is a list of programs organized into the above-mentioned virtual channels as arranged in a time-dependent manner for each virtual channel to visually present the time and channel of the broadcasting to the user.

[0037]

In order to generate a virtual channel and a virtual program guide and provide the generated virtual channel and the virtual program guide to the user, the program service providing apparatus 6 has a virtual program guide generating apparatus 20 for generating virtual channels and program guides as shown in FIG. 2, and the virtual program guide generating apparatus 20 and the terminal apparatus 2 constitute a virtual program guide providing system 10.

[0038]

The virtual program guide providing system 10 includes the virtual program guide generating apparatus

20 for transmitting a virtual program guide generated on the basis of a virtual channel and the terminal apparatus 2 for receiving the virtual program guide received from the virtual program guide generating apparatus 20.

[0039]

The virtual program guide generating apparatus 20 includes a database 11, a database 12, a database 13, a database 14, and a controller 15.

[0040]

The database 11 stores the program information listed in Table 1, which is the attribute information about the programs provided by the commissioning broadcast provider 3.

[0041]

[Table 1]

Date	Day	Start Time	Time	Title	Category	keyword
2000.09.01	Friday	19:30:00	0:30:00	Quiz ◎◎	7	Arimura △△
2000.09.01	Friday	20:00:00	0:30:00	News/Stock Price Commentary	6	Sato ○○
2000.09.01	Friday	20:00:00	0:30:00	○○ News	6	Nakamura ○○
2000.09.01	Friday	20:00:00	0:30:00	×× Music	4	Kitayama ××
2000.09.01	Friday	20:00:00	2:00:00	△△ Japanese Movie Theater	1	Yamada ◎◎
2000.09.01	Friday	20:00:00	1:00:00	×× Quiz	7	Maeda ××
2000.09.01	Friday	20:00:00	1:00:00	◎◎ Count Down	4	Kitagawa ○○
2000.09.01	Friday	20:00:00	0:30:00	△△ Angler ××	8	Suzuki △△
2000.09.01	Friday	20:00:00	1:00:00	△△ Challenge	7	Takada ××
2000.09.01	Friday	20:00:00	1:00:00	○○ Featuring	A	Murakami □□
2000.09.01	Friday	20:00:00	1:00:00	×× Professional Wrestling	3	Funaki ◎◎
2000.09.01	Friday	20:30:00	0:30:00	◎◎ Introduction	9	Hara △△
2000.09.01	Friday	20:30:00	0:30:00	News & Sports ◎◎	6	Harada ◎◎
2000.09.01	Friday	20:30:00	0:30:00	Olympics □□	3	Takahashi △△
2000.09.01	Friday	20:30:00	0:30:00	○○ Science	A	Suzuki ◎◎
2000.09.01	Friday	21:00:00	1:00:00	□□ Great Nature	A	Sakamoto ○○
2000.09.01	Friday	21:00:00	1:00:00	Friday Drama ◎◎	5	Katsura ◎◎
2000.09.01	Friday	21:00:00	1:00:00	Ruins ◎◎ Exploration	B	Shima ○○
2000.09.01	Friday	21:00:00	1:00:00	New Car Information ×× featuring	8	Matsubayashi □□
2000.09.01	Friday	21:00:00	1:00:00	World ○○ Soccer	2	Tanaka △△
2000.09.01	Friday	21:00:00	0:30:00	◎◎ Sword	9	Murata ◎◎
2000.09.01	Friday	21:00:00	2:00:00	◎◎ Foreign Movie Theater	0	Yodogawa ××
2000.09.01	Friday	21:00:00	1:00:00	△△ Theater	5	Inagaki ◎◎
2000.09.01	Friday	21:00:00	2:00:00	○○ Theater	0	Tsuchiya ○○
2000.09.01	Friday	21:30:00	0:30:00	×× 2/4	9	Ikeda □□
2000.09.01	Friday	22:00:00	2:00:00	French Movie ◎◎	0	Makino ◎◎
2000.09.01	Friday	22:00:00	1:00:00	Overseas Travel ○○ Information	8	Inoue ○○
2000.09.01	Friday	22:00:00	0:30:00	Let's Use Digital Video ○○%	8	Yamashita ××
2000.09.01	Friday	22:00:00	1:00:00	Yesterday's ◎◎	5	Mikami △△
2000.09.01	Friday	22:00:00	1:00:00	NY ○○	5	Kimura ××
2000.09.01	Friday	22:00:00	1:00:00	22○○ Drama	5	Yamaguchi ○○
2000.09.01	Friday	22:00:00	1:00:00	LA2NextWeek	5	George ◎◎
2000.09.01	Friday	22:00:00	0:30:00	Bowling △△	8	Nishida △△
2000.09.01	Friday	22:30:00	0:30:00	News ◎◎	6	Yamamura ◎◎
2000.09.01	Friday	22:30:00	0:30:00	Cute Angel Kent	0	Kent □□
2000.09.01	Friday	23:00:00	1:00:00	Space Time N○S○	B	Tsuchiya △△
2000.09.01	Friday	23:00:00	1:00:00	Music □	4	Hase ○○
2000.09.01	Friday	23:00:00	1:00:00	Cook ◎◎	7	Chin ◎◎

[0042]

The program information includes, as attribute information, for example, date and day on which a program will be broadcast, program broadcast start time and program broadcast end time (which may be replaced by a program broadcast time length), program category, program keyword, a channel number on which the program will be broadcast, channel name, and a brief explanation of the program to be broadcast or the like.

[0043]

Table 1 lists the date and day on which programs will be broadcast, program broadcast start time, program broadcast time length, program category, and program keyword from among the above-mentioned attribute information, each of the listed items being described below.

[0044]

The Date box indicates a date on which a program will be broadcast, in the Christian era; for example, "2000.09.08."

[0045]

The Day box indicates a day of the week on which a program will be broadcast; for example, "Friday." The Start Time box indicates a time at which the program will

be broadcast; for example, "19:30:00."

[0046]

The Time box indicates a length of time of a program; for example, "0:30:00" for a 30 minutes program.

[0047]

The Title box indicates a program title; for example, "Quiz ◎◎."

[0048]

The Category box indicates a program category in a number listed in Table 1; for example "7." The program categories are classified into some genres categorizing characteristics of programs to be broadcast; for example, the programs are classified into 15 categories as shown in Table 2.

[0049]

[Table 2]

Number	Category
0	Foreign movie
1	Japanese movie
2	Sports 1
3	Sports 2
4	Music
5	Drama/Theater
6	News/Report
7	Variety
8	Leisure/Hobby
9	Child/Education
A	Culture/Documentary
B	Overseas broadcast
C	Adult-oriented
D	Digital radio
E	Others
F	-

[0050]

The 15 categories are expressed in 0 through E in hexadecimal. The 15 categories may be further divided in Table 2 as required to classify each program in further detail. It should be noted that category F denotes a reserved category.

[0051]

The database 12 stores a program viewing log which indicates which programs the user has viewed. The controller 15, upon viewing of a program by the user, stores, as a program viewing log, date on which the program was broadcast, day on which the program was broadcast, program start time, program title, classified

program category, and program keyword into the database 12.

[0052]

The following describes first method and second method for confirming that the user has viewed a program.

[0053]

In the first method, how long the user has viewed a particular program is obtained and the length is compared with a predetermined threshold, thereby determining whether the user has viewed that program. For example, let the broadcast length of time of a particular program be L, the threshold be T, and the length of time the user has viewed the program be M. Then, if viewing time M satisfies relation $T \leq (M/L)$, then it is determined that the user has viewed that program. The threshold T may be constant for all programs or variable for different programs. For example, the threshold for dramas or movies for example which become more entertaining as they approach to their ends may be set to a higher level, while the threshold for news for example which present most important information at the beginning is set to a lower level.

[0054]

In the second method, the viewing of a particular

program is recognized when the user has accessed it from a virtual program guide presented to the terminal apparatus 2. In the second method, the access to the program information by the user is registered with the database 12 as a program viewing log regardless whether the user has actually viewed or not.

[0055]

Meanwhile, viewing by the user of a particular program denotes that the user is interested in that program, so that the program viewing log stored in the database 12 may be considered to reflect the user's preference.

[0056]

Consequently, the controller 15 generates user program viewing tendency information from the program viewing log stored in the database 12 by counting the number of times the user has viewed the program by program title, program category, and program keyword and stores the generated information into the database 12.

[0057]

The user program viewing tendency information includes a title list defined by program title (Title), a category list defined by program category (Category), and a keyword list defined by program keyword (Keyword), each

list having a value (Value) indicative of the number of times the user has viewed the program. A set of the user program viewing tendency information includes a category list, a title list, and a keyword list as a set. The user program viewing tendency information can be set on 1 hour basis and on 1 week basis Monday through Sunday. For example, various modes can be set. One mode has a set of user program viewing tendency information on 1 hour basis for every day of the week. Another mode has a set of user program viewing tendency information for week days Monday through Friday and another set for a week end Saturday and Sunday, a total of 2 sets in 1 week. Still another mode has a set to user program viewing tendency information from Monday to Sunday.

[0058]

In each of the following descriptions, the mode having a set of the user program viewing tendency information on one hour basis for each day of the week. For example, in this mode, 24 sets of user program viewing tendency information are created, amount to a total of 168 (24 × 7) in one week.

[0059]

As shown in FIG. 3, if three hours from 20:00 to 23:00 on Friday for example are taken, then there are

three sets of user program viewing tendency information. These sets are referred to as Fri20, which is user program viewing tendency information from 20:00 to 21:00, Fri21, which is user program viewing tendency information from 21:00 to 22:00, and Fri22, which is user program viewing tendency information from 22:00 to 23:00.

[0060]

The title list of Fri20 is shown in Table 3, its category list in Table 4, and its keyword list in Table 5. It should be noted that each list includes the top three programs in the descending order of their values.

[0061]

[Table 3]

Day	Time	Title	Value
Friday	20:00:00	News/Stock Price Commentary	10
Friday	20:30:00	○○ Science	7
Friday	20:00:00	○○ News	2

[0062]

[Table 4]

Day	Time	Category	Value
Friday	20:00:00	News/Report (6)	12
Friday	20:00:00	Culture/Documentary (A)	7
Friday	20:00:00	Music (4)	1

[0063]

[Table 5]

Day	Time	Keyword	Value
Friday	20:00:00	Sato ○○	15
Friday	20:30:00	Suzuki ◎◎	7
Friday	20:00:00	Kitayama ××	2

[0064]

The title list shown in Table 3 includes information such as the day of the week on which a program is broadcast, the program start time, the program title, and the value. For example, the program having the highest value in the title list of Table 3 has a title "News/Stock Price Commentary" which starts at 20:00, its value being 10.

[0065]

The category list shown in Table 4 includes information such as the day of the week on which a program is broadcast, the program start time, the program category, and the value. For example, the category having the highest value in the category list of Table 4 has a title "News/Report" having value 12.

[0066]

The keyword list shown in Table 5 includes information such as the day of the week on which a program is broadcast, the program start time, the program keyword, and the value.

[0067]

The keyword of a program is described here. The keyword of a program is a personal name for example as shown in Table 5, and this personal name indicates the name of a person who appears on that program. For example,

the keyword may be the name of person who regularly appears on that program or the name of a guest who characterizes that program. For example, the keyword having the highest value in the keyword list in Table 5 is the keyword of "Sato ○○" having value 15.

[0068]

A method of counting values, or how the length of viewing time of a program is counted as a value will be described later in detail.

[0069]

The title list of Fri21 is shown in Table 6, the category list in Table 7, and the keyword list in Table 8. The title list of Fri22 is shown in Table 9, the category list in Table 10, and the keyword list in Table 11.

[0070]

[Table 6]

Day	Time	Title	Value
Friday	21:00:00	World ○○ Soccer	9
Friday	21:00:00	◎◎ Foreign Movie Theater	4
Friday	21:00:00	Ruins ◎◎ Exploration	1

[0071]

[Table 7]

Day	Time	Category	Value
Friday	21:00:00	Sports 1 (2)	10
Friday	21:00:00	Foreign Movie (0)	4
Friday	21:00:00	Overseas Broadcast (B)	1

[0072]

[Table 8]

Day	Time	Keyword	Value
Friday	21:00:00	Tanaka △△	9
Friday	21:00:00	Yodogawa ××	4
Friday	21:00:00	Shima ○○	1

[0073]

[Table 9]

Day	Time	Title	Value
Friday	22:00:00	LA2NextWeek	8
Friday	23:00:00	Cute Angel Kent	5
Friday	22:00:00	Bowling △△	2

[0074]

[Table 10]

Day	Time	Category	Value
Friday	22:00:00	Drama/Theater (5)	8
Friday	22:00:00	Foreign Movie (0)	5
Friday	22:00:00	Leisure/Hobby (8)	3

[0075]

[Table 11]

Day	Time	Keyword	Value
Friday	22:00:00	George ◎◎	7
Friday	22:30:00	Kent □□	5
Friday	22:00:00	Nishida △△	1

[0076]

The database 13 stores the personal information of the user.

[0077]

The personal information includes age, gender, marital status, occupation, and so on. The personal information is inputted through the terminal apparatus 2 for registration before receiving services in the virtual program guide providing system 10, for example.

[0078]

Also, the database 13 stores the broadcasting dates of programs which the user wants to view without failure at organizing virtual channels, their broadcast times, and their titles. Let the programs which the user wants to view without failure be an absolute viewing program group, then it is organized first into virtual channels. As with the above-mentioned personal information, the user inputs the absolute viewing program group through the terminal apparatus 2 to be described later.

[0079]

The database 14 stores group information about a group determined on the basis of the user personal information stored in the database 13.

[0080]

In order to obtain the group information, grouping is first made on the basis of the personal information stored in the database 13. For example, the grouping is made on the basis of the personal information such as age, occupation, and marital status for example. Obviously, the grouping may be made in more detail or less detail than the above-mentioned three categories, such as age, occupation, and marital status.

[0081]

After the grouping, the group's program viewing tendency information is newly created by use of the personal program viewing log stored in the database 12. This group viewing tendency information is stored in the database 14 for each group.

[0082]

For example, assume user X who uses the virtual program guide providing system 10. Assume that user X, as the user X uses the virtual program guide providing system 10, input from the terminal apparatus 2 the personal information that age is 30, marital status is single, and occupation is engineer. From this personal information, the virtual program guide generating apparatus 20 generates through the controller 15 a group, which is referred to as group A for example. The

controller 15 then inputs the viewing logs of all users belonging to group A into the database 14 to newly create the program viewing tendency information of the group as a group program viewing tendency information. The group program viewing tendency information is stored, for each program title (Title), program category (Category), and program keyword (Keyword), into the database 14 along with values (Value) indicative of the number of times the programs have been viewed, as with the user program viewing tendency information.

[0083]

As with the user program viewing tendency information, a set of group program viewing tendency information includes a category list, a title list, and a keyword list. A set of group program viewing tendency information includes a category list, a title list, and a keyword list. The group program viewing tendency information can be set on 1 hour basis and on 1 week basis Monday through Sunday. For example, various modes can be set. One mode has a set of group program viewing tendency information on 1 hour basis for every day of the week. Another mode has a set of group program viewing tendency information for week days Monday through Friday and another set for a week end Saturday and Sunday, a

total of 2 sets in 1 week. Still another mode has a set to group program viewing tendency information from Monday to Sunday.

[0084]

In what follows, the mode having one set of group program viewing tendency information on 1 hour basis for every day of the week is applied. For example, in the mode having one set of group program viewing tendency information on 1 hour basis for every day of the week, 24 sets of group program viewing tendency information are created in one day, amount to a total of 168 (24 × 7) in one week.

[0085]

As with the user program viewing tendency information, if three hours from 20:00 to 23:00 on Friday for example are taken, then there are three sets of group program viewing tendency information. These sets are referred to as GFri20, which is from 20:00 to 21:00, GFri21, which is from 21:00 to 22:00, and Gfri22, which is from 22:00 to 23:00.

[0086]

The title list of GFri20 is shown in Table 12, its category list in Table 13, and its keyword list in Table 14. It should be noted that each list includes the top

three programs in the descending order of their values.

[0087]

[Table 12]

Day	Time	Title	Value
Friday	20:00:00	×× Professional Wrestling	8
Friday	20:00:00	○○ News	4
Friday	20:00:00	×× Quiz	3

[0088]

[Table 13]

Day	Time	Category	Value
Friday	20:00:00	Sports 2 (3)	12
Friday	20:00:00	News/Report (6)	6
Friday	20:00:00	Variety (7)	2

[0089]

[Table 14]

Day	Time	Keyword	Value
Friday	20:00:00	Funaki ◎◎	5
Friday	20:00:00	Nakamura ○○	3
Friday	20:00:00	Takahashi △△	1

[0090]

The title list shown in Table 12 includes each information such as the day of the week on which a program is broadcast, the program start time, the program title, and the value. For example, the program having the highest value in the title list of Table 12 has a title "×× Professional Wrestling" which starts at 20:00, its value being 8.

[0091]

The category list shown in Table 13 includes each information such as the day of the week on which a program is broadcast, the program start time, the program

title, and the value. For example, the category having the highest value in the category list of Table 13 is a title "Sports 2" having value 12.

[0092]

The keyword list shown in Table 14 includes each information such as the day of the week on which a program is broadcast, the program start time, the program keyword, and the value. The keyword of a program is described here. For example, the program keyword may be the name of person shown in Table 14, and the name shows a guest who appears on the program. For example, the keyword may be the name of person who regularly appears on that program or the name of a guest who characterizes that program as shown in Table 14. For example, the keyword having the highest value in the keyword list in Table 14 is "Funaki ◎◎" having value 5.

[0093]

The values of each list are computed from the viewing logs of all users belonging to each group and updated at predetermined intervals.

[0094]

The title list of GFri21 is shown in Table 15, the category list in Table 16, and the keyword list in Table 17. The title list of GFri22 is shown in Table 18, the

category list in Table 19, and the keyword list in Table 20.

[0095]

[Table 15]

Day	Time	Title	Value
Friday	21:00:00	◎◎ Foreign Movie Theater	9
Friday	21:00:00	Friday Drama ◎◎	6
Friday	21:00:00	□□ Great Nature	4

[0096]

[Table 16]

Day	Time	Category	Value
Friday	21:00:00	Foreign Movie (0)	9
Friday	21:00:00	Drama/Play (5)	6
Friday	21:00:00	Culture/Documentary (A)	5

[0097]

[Table 17]

Day	Time	Keyword	Value
Friday	21:00:00	Yodogawa ××	9
Friday	21:00:00	Tsuchiya ○○	5
Friday	21:00:00	Katsura ◎◎◎	3

[0098]

[Table 18]

Day	Time	Title	Value
Friday	22:00:00	LA2NextWeek	5
Friday	22:00:00	Overseas Travel ○○ Information	3
Friday	22:00:00	22○○ Drama	1

[0099]

[Table 19]

Day	Time	Category	Value
Friday	22:00:00	Drama/Theater (5)	5
Friday	22:00:00	Leisure/Hobby (8)	4
Friday	22:00:00	News/Report (6)	2

[0100]

[Table 20]

Day	Time	Keyword	Value
Friday	22:00:00	George ◎◎	5
Friday	22:00:00	Yamaguchi ○○	4
Friday	22:00:00	Kimura ××	3

[0101]

As described above, the user program viewing tendency information and the group program viewing tendency information are generated not only on the basis of the program viewing logs of the users stored in the database 12, but also on the basis of program rating by the users. If a user determines that a program the user viewed is good, this rating is reflected onto the user program viewing tendency information and the group program viewing tendency information, thereby incrementing the values of the title, category, and keyword of that program.

[0102]

For example, a button "Good" for inputting user's program rating is arranged in each program information box of the virtual program guide generated by the virtual program guide generating apparatus 20. After the user viewed the program in the virtual program guide, if the user determines that the program just viewed is good, the user checks the "Good" button at the terminal apparatus 2, upon which the values of the titles, categories, and keywords of the user program viewing tendency information and group program viewing tendency information are incremented, thereby reflecting the user's program rating onto the program viewing tendency information and the

group program viewing tendency information.

[0103]

The controller 15 totally controls the database 11, the database 12, the database 13, and the database 14 and generates a virtual program guide, which is transmitted to the terminal apparatus 2.

[0104]

The terminal apparatus 2 is a personal computer for example, which receives the virtual program guide transmitted from the virtual program guide generating apparatus 20 and has a display section, for example a CRT (Cathode Ray Tube) or liquid crystal display, on which the received virtual program guide is displayed. The terminal apparatus 2 also has an input section, for example a keyboard and a mouse, for inputting the personal information and the information for changing the virtual program guide for example, the inputted personal information being transmitted to the virtual program guide generating apparatus 20.

[0105]

The following describes the operation of generating a virtual program guide in the virtual program guide providing system 10 with reference to the flowcharts shown in FIGS. 4 through 12.

[0106]

Step S1 through step S11 will be described with reference to FIG. 4.

[0107]

In step S1, the user inputs the day of the week of a virtual program guide to be created at the terminal apparatus 2, start time ST of the virtual program guide, and time t thereof.

[0108]

If the number of virtual channels to be generated has not been determined in advance and if the number of virtual channels can be set by the user, the user also inputs the number of virtual channels. Also, the number of virtual channels may be computed by presetting the upper limit of the number of virtual channels which can be generated and multiplying the number of real channels available to the user by a coefficient. For example, let the upper limit of the number of virtual channels be V_{max}, the number of real channels be R_c, the number of virtual channels be V_c, and the coefficient be k, then the virtual channels V_c is computed by $V_c = k \times R_c$. However, if computed V_c is $V_c \geq V_{max}$, then $V_c = V_{max}$.

[0109]

In step S1, it is assumed that the user who wants

to create the virtual program guide be user X and the day of the week and time of the virtual program guide to be created be Friday and 20:00 to 23:00. The number of virtual channels to be generated can be inputted by the user, the number of virtual channels being 4, and each channel describing as VC-1, VC-2, VC-3, and VC-4.

[0110]

Next, the user inputs from the terminal apparatus 2 a policy value for determining the priority between user program viewing tendency information and group program viewing tendency information and the priority between the title lists, category lists, and keyword lists of user program viewing tendency information and group program viewing tendency information.

[0111]

The policy value is of a time count mode in which the number of virtual channels to be generated is multiplied by a time count to compute a total time count, for which an adoption ratio is specified and a program count mode in which an adoption ratio is specified for the number of programs to be organized into virtual channels.

[0112]

First, the time count mode will be described. In

the time count mode, the policy values are inputted like 70% for user program viewing tendency information and 30% for group program viewing tendency information, for example. These values denote that the programs equivalent to a time count 70% of the total time count computed by multiplying the number of virtual channels to be generated by the time count are organized into the virtual channels on the basis of the user program viewing tendency information and programs equivalent to a time count 30% of the total time count are organized into the virtual channels on the basis of the group program viewing tendency information.

[0113]

For example, if the total time count obtained by multiplying the number of generated virtual channels by the time count is 100 hours, then the broadcast time of the programs which can be organized by use of the user program viewing tendency information amounts to a total of 70 hours and the broadcast time of the programs which can be organized by use of the group program viewing tendency information amounts to a total of 30 hours.

[0114]

Likewise, it is assumed that the policy values of the title lists, category lists, and keyword lists of the

user program viewing tendency information and the group program viewing tendency information be 50%, 30%, and 20% respectively. If the user program viewing tendency information is used as mentioned above, the time of the number of programs which can be arranged is a total of 70 hours, so that programs of 35 hours on the basis of the title list, programs of 21 hours on the basis of the category list, and programs of 14 hours on the keyword list are selected. The same holds if the group program viewing tendency information is used.

[0115]

Also, when programs are organized into virtual channels, the programs are organized in the descending order of their policy values. In the above-mentioned policy values, the title list of the user program viewing tendency information is used preferentially, followed by the category list and the keyword list in this order. When the program organization by the user program viewing tendency information has been completed, then the title list, category list, and keyword list of the group program viewing tendency information are used in this order.

[0116]

It should be noted that, although any value may be

inputted for policy values, a fractional number may result depending on combinations of a time in which virtual channels can be arranged and a time of program broadcasting. If this happens, a program is selected so that it is closest to each policy value.

[0117]

The following describes the program count mode. In the program count mode, the number of programs which can be organized into virtual channels is set as a program count which provides reference for specifying an adoption ratio in the number of programs. For example, if one program can be organized in each channel every hour and if programs are organized into virtual channels in units of one hour on the basis of user program viewing tendency information and group program viewing tendency information, the number of virtual channels provides the reference for the number of programs. For example, if the number of virtual channels to be generated is 20, then the reference number of programs is 20.

[0118]

In the program count mode, policy values are inputted as 70% for the user program viewing tendency information and 30% for the group program viewing tendency information for example as with the time count

mode.

[0119]

These values denote that 70% of the above-mentioned reference number of programs are selected on the basis of the user program viewing tendency information and 30% are selected on the basis of the group program viewing tendency information. For example, if the number of virtual channels to be generated is 20, then the number of programs which can be organized by use of the user program viewing tendency information is 20 × 0.7 = 14 and the number of programs which can be organized by use of the group program viewing tendency information is 20 × 0.3 = 6.

[0120]

Likewise, it is assumed that the policy values of the title lists, category lists, and keyword lists of the user program viewing tendency information and the group program viewing tendency information be 50%, 30%, and 20% respectively. As described above, if the user program viewing tendency information is used, the number of programs which can be organized is 14, so that 14 × 0.5 = 7 programs are selected on the basis of title list, 14 × 0.3 = 4.2 programs on the basis of category list, and 14 × 0.2 = 2.8 programs on the basis of keyword list. If a

fractional number results as with the case of the number of programs selected on the basis of category list and keyword list, the number of programs is corrected such that it is closest to each policy value. For example, 4.2 is corrected to 4 in the category list and 2.8 is corrected to 3 in the keyword list. In the program count mode, if an appropriate free area for organizing programs into virtual channels exists after the execution of the above-mentioned processing, the same processing is repeated to organize programs into virtual channels.

[0121]

In the case of group program viewing tendency information, the above-mentioned processing is also repeated to organize programs into virtual channels as with user program viewing tendency information.

[0122]

When organizing programs into virtual channels in the program count mode, the programs are organized in the descending order of their policy values like the time count mode. In the case of the above-mentioned policy values, the title list of the user program viewing tendency information is used preferentially, followed by the category list and the keyword list in this order. When the program organization by the user program viewing

tendency information has been completed, then the title list, category list, and keyword list of the group program viewing tendency information are used in this order.

[0123]

In step S2, in response to the input from the terminal apparatus 2, the controller 15 of the virtual program guide generating apparatus 20 retrieves the user program viewing tendency information of user X from the database 12, the absolute viewing program group from the database 13, and the group program viewing tendency information of group A in this example, to which user X belongs, from the database 14. Since a virtual program guide desired by user X is that covering 20:00 to 23:00 of Friday, the controller 15 retrieves Fri20 shown in Tables 3 through 5, Fri21 shown in Tables 6 through 8, and Fri22 shown in Tables 9 through 11 of the user program viewing tendency information and GFri20 shown in Tables 12 through 14, GFri21 shown in Tables 15 through 17, and GFri22 shown in Tables 18 through 20 of the group program viewing tendency information.

[0124]

In step S3, the controller 15 retrieves all program information corresponding to the time zones for which a

virtual program guide is created from the database 11 to provide one program group. In this example, the program information from 20:00 to 23:00 of Friday is retrieved. If the program information is that shown in Table 1 described above for example, the start time box and the time box in the table are referenced to extract programs which start after 20:00 and end before 23:00.

[0125]

In Table 1, "Quiz ◎◎" of which start time is 19:30:00, "French Movie ◎◎" of which broadcast end time exceeds 23:00 because its start time is 22:00:00 and its time is 2:00:00, "Space Time N○S○" of which start time is 23:00:00, "Music □," and "Cook ◎◎" are excluded, the program information about the other programs being organized as a program group. This program group is referred to as a primary temporary program group in this example. The primary temporary program group is shown in Table 21.

[0126]

[Table 21]

Date	Day	Start Time	Time	Title	Category	keyword
2000.09.01	Friday	20:00:00	0:30:00	News/Stock Price Commentary	6	Sato ○○
2000.09.01	Friday	20:00:00	0:30:00	○○ News	6	Nakamura ○○
2000.09.01	Friday	20:00:00	0:30:00	×× Music	4	Kitayama ××
2000.09.01	Friday	20:00:00	2:00:00	△△ Japanese Movie Theater	1	Yamada ◎◎
2000.09.01	Friday	20:00:00	1:00:00	×× Quiz	7	Maeda ××
2000.09.01	Friday	20:00:00	1:00:00	◎◎ Count Down	4	Kitagawa ○○
2000.09.01	Friday	20:00:00	0:30:00	△△ Angler ××	8	Suzuki △△
2000.09.01	Friday	20:00:00	1:00:00	△△ Challenge	7	Takada ××
2000.09.01	Friday	20:00:00	1:00:00	○○ Featuring	A	Murakami □□
2000.09.01	Friday	20:00:00	1:00:00	×× Professional Wrestling	3	Funaki ◎◎
2000.09.01	Friday	20:30:00	0:30:00	◎◎ Introduction	9	Hara △△
2000.09.01	Friday	20:30:00	0:30:00	News & Sports ◎◎	6	Harada ◎◎
2000.09.01	Friday	20:30:00	0:30:00	Olympics □□	3	Takahashi △△
2000.09.01	Friday	20:30:00	0:30:00	○○ Science	A	Suzuki ◎◎
2000.09.01	Friday	21:00:00	1:00:00	□□ Great Nature	A	Sakamoto ○○
2000.09.01	Friday	21:00:00	1:00:00	Friday Drama ◎◎	5	Katsura ◎◎◎
2000.09.01	Friday	21:00:00	1:00:00	Ruins ◎◎ Exploration	B	Shima ○○
2000.09.01	Friday	21:00:00	1:00:00	New Car Information ×× Featuring	8	Matsubayashi □□
2000.09.01	Friday	21:00:00	1:00:00	World ○○ Soccer	2	Tanaka △△
2000.09.01	Friday	21:00:00	0:30:00	◎◎ Sword	9	Murata ◎◎
2000.09.01	Friday	21:00:00	2:00:00	◎◎ Foreign Movie Theater	0	Yodogawa ××
2000.09.01	Friday	21:00:00	1:00:00	△△ Theater	5	Inagaki ◎◎
2000.09.01	Friday	21:00:00	2:00:00	○○ Theater	0	Tsuchiya ○○
2000.09.01	Friday	21:30:00	0:30:00	×× 2/4	9	Ikeda □□
2000.09.01	Friday	22:00:00	1:00:00	Overseas Travel ○○ Information	8	Inoue ○○
2000.09.01	Friday	22:00:00	0:30:00	Let's Use Digital Video ○○%	8	Yamashita ××
2000.09.01	Friday	22:00:00	1:00:00	Yesterday's ◎◎	5	Mikami △△
2000.09.01	Friday	22:00:00	1:00:00	NY ○○	5	Kimura ××
2000.09.01	Friday	22:00:00	1:00:00	22○○ Drama	5	Yamaguchi ○○
2000.09.01	Friday	22:00:00	1:00:00	LA2NextWeek	5	George ◎◎
2000.09.01	Friday	22:00:00	0:30:00	Bowling △△	8	Nishida △△
2000.09.01	Friday	22:30:00	0:30:00	News ◎◎	6	Yamamura ◎◎
2000.09.01	Friday	22:30:00	0:30:00	Cute Angel Kent	0	Kent □□

[0127]

In step S4, the controller 15 compares the primary temporary program group with the program information about the absolute viewing program group of user X retrieved from the database 13 in step S2 to see if there is any matching program. If a matching program is found, the controller 15 reads its program information, upon which the procedure goes to step S5; otherwise, the procedure goes to step S8.

[0128]

Table 22 lists one example of the absolute viewing program group of user X.

[0129]

[Table 22]

Date	Day	Start Time	Time	Title	Category	Keyword
2000.09.01	Friday	20:30:00	0:30:00	○○ Science	A	Suzuki ○○
2000.09.01	Friday	22:30:00	0:30:00	Cute Angel Kent	0	Kent □□

[0130]

For example, first, the controller 15 compares "○○ Science" of which start time is 20:30:00, earliest among the absolute viewing programs listed in Table 22, with the primary temporary program group listed in Table 21 to see if there is any matching program. When the controller 15 finds "○○ Science" in the primary temporary program group listed in Table 21, then the

controller 15 reads its program information, upon which the procedure goes to step S5.

[0131]

In step S5, the controller 15 computes a free area for virtual channels and compares the obtained free area with a program broadcast time obtained from the program information retrieved in step S4 to determine whether programs can be organized into virtual channels. If the controller 15 determines that programs can be organized, the procedure goes to step S6; otherwise the procedure returns to step S4.

[0132]

For example, if none of the programs has been organized into virtual channels, the controller 15 computes the free area for the virtual channels to be 4 channels × 3 hours = 12 hours. Since the broadcast length of time of "○○ Science" of which program information is retrieved in step S4 is 30 minutes, the controller 15 determines that "○○ Science" can be organized into any one of virtual channels VC-1 through VC-4, upon which the procedure goes to step S6.

[0133]

In step S6, the controller 15 organizes programs into virtual channels and arranges the program

information about the organized programs in the virtual program guide. The programs are organized in the ascending order of virtual channel numbers. To be more specific, given the four virtual channels VC-1, VC-2, VC-3, and VC-4, the programs are organized starting with VC-1.

[0134]

For example, because no program has been organized in the virtual channels, the controller 15 organizes "AA Science" whose start time is 20:30:00 into VC-1 at the position of 20:30, arranging the program information of this program in the virtual program guide.

[0135]

In step S7, the controller 15 deletes, from the primary temporary program group, the program information of the program organized into a virtual channel in step S6. For example, the program information about "AA Science" is deleted from the primary temporary program group listed in Table 21.

[0136]

When the process of step S7 has been completed, the procedure returns to step S4. Because the absolute viewing program group listed in Table 22 includes "Cute Angel Kent" whose start time is 22:30:00 and this program

can also be organized into a virtual channel, the controller 15 organizes this program into VC-1 at the position of 22:30 and arranges its program information in the virtual program guide.

[0137]

In step S8, the controller 15 compares the primary temporary program group with a third party's advertisement program list stored in a storage section, not shown. If a matching program is found, the controller 15 retrieves the program information, upon which the procedure goes to step S9; otherwise, the procedure goes to step S12 of FIG. 5.

[0138]

The following describes the third party's advertisement program list. This list is a collection of the program information about the programs selected by a person or an organization other than user X, for example, the server administrator operating the program service providing apparatus 6 or the advertiser 4. With or without permission by user X, the server administrator may insert advertisement programs selected by the server administrator into virtual channels. If the server administrator charges user X every time a virtual channel is generated, the server administrator may discount the

fee charge in compensation for the advertisement made by advertisement programs inserted in programs viewed by user X. If programs selected by the advertiser 4 are organized into virtual channels, those programs which use products which the advertiser 4 wants to advertise or are inserted with the commercials of such products, for example, are organized into virtual channels. With or without permission by user X, the advertiser 4 may pay all or part of the virtual channel service usage fee to be paid by user X to the server administrator, in compensation for the organization of such programs into virtual channels. Thus, the third party's advertisement program list is a collection of programs having third party's intentions as described above. Often, these programs are nothing to do with user's preference. However, those advertisement programs which fit user's or group's preferences may be selected.

[0139]

For example, the controller 15 compares the third party's advertisement program list with the primary temporary program group shown in Table 21. If "Let's Use Digital Video ○○%" of which start time 22:00:00 is found matching, the controller 15 retrieves the program information of this program.

[0140]

A third party who organizes this program into a virtual channel of user X is a maker or the like of making and dealing with digital video cameras or digital VCRs for example.

[0141]

In step S9, the controller 15 computes a virtual channel free area and compares the obtained free area with the program's broadcast length of time obtained from the program information retrieved in step S8, thereby determining whether this program can be organized into a virtual channel. If the controller 15 determines that the program is found organizable into a virtual channel, the procedure goes to step S10; otherwise, the procedure returns to step S8 of FIG. 4.

[0142]

In step S10, the controller 15 organizes the program into a virtual channel and arranges its program information into the virtual program guide. The controller 15 makes this organization in the ascending order of the virtual channel numbers.

[0143]

For example, "Let's Use Digital Video ○○%" of which start time is 22:00:00 is organized into VC-1 at

the position of 22:00, its program information being arranged into the virtual program list as shown by a hatched portion in FIG. 13. For example, when "Explanation" button placed in the program information box of the virtual program guide shown in FIG. 13 is clicked, a browser starts, displaying a brief explanation of the contents of that program.

[0144]

In step S11, the controller 15 deletes the program information of the program organized into a virtual channel in step S10 from the primary temporary program group. For example, the program information of "Let's Use Digital Video ○○%" in the primary temporary program group shown in FIG. 21 is deleted.

[0145]

Upon completion of the process of step S11, the procedure returns to step S8.

[0146]

Processes of steps S12 through S23 are shown in FIG. 5.

[0147]

In step S12, the controller 15 obtains the number of hours in which a virtual program guide to be created can be organized into virtual channels and computes an

organization allowable time providing the upper limit for the organization from the policy values inputted by user X in step S1 and on the basis of the user program viewing tendency information and the group program viewing tendency information.

[0148]

For example, if there are four virtual channels and a virtual program guide covering a time zone for 3 hours from 20:00 to 23:00 is to be created, the virtual channels have an organization allowable time of 4 (channels) × 3 (hours) × 60 (minutes) = 720 minutes. If VC-1 is organized with 30-minute "○○ Science," 30-minute "Let's Use Digital Video ○○%," and 30-minute "Cute Angel Kent," then the organization allowable time of the virtual program guide is 720 - 30 × 3 = 630 minutes.

[0149]

If the policy values of user program viewing tendency information and group program viewing tendency information are 70% and 30% respectively, then the organization allowable times are 630 × (7/10) = 441 minutes and 630 × (3/10) = 189 minutes, respectively. These organization allowable times denote that a maximum of 441 minutes of programs can be arranged in a virtual channel on the basis of the user program viewing tendency

information and a maximum of 189 minutes of programs can be arranged in a virtual channel on the basis of the group program viewing tendency information.

[0150]

Further, if the policy values of the title list, category list, and keyword list of the user program viewing tendency information and the group program viewing tendency information are 50%, 30%, and 20% respectively, then the organization allowable times are 441 × (5/10) = 220.5 minutes, 441 × (3/10) = 132.3 minutes, and 441 × (2/10) = 88.2 minutes in the case of the user program viewing tendency information. In the case of the group program viewing tendency information, the organization allowable times are 189 × (5/10) = 94.5 minutes, 189 × (3/10) = 56.7 minutes, and 189 × (2/10) = 37.8 minutes respectively. However, since each program is composed on a 120, 60, or 30 minutes basis, the organization allowable time should be an integral multiple of the length of broadcast time of each program to eliminate the waste of time, thereby reflecting the user program viewing tendency information and the group program viewing tendency information onto the virtual channel organization job more properly.

[0151]

For example, if the organization allowable times by title list, category list, and keyword list computed as described above are corrected to an integral multiple of 30 minutes because the shortest broadcast time of the programs belonging to the primary temporary program group is 30 minutes, the organization allowable times become 240 minutes, 120 minutes, and 90 minutes respectively in the case of the user program viewing tendency information. Likewise, in the case of the group program viewing tendency information, the organization allowable times become 90 minutes, 60 minutes, and 30 minutes respectively.

[0152]

It should be noted that, in step S12 and on, the time count mode is applied in which an adoption ratio is specified for a total number of hours obtained by multiplying the number of virtual channels to be generated by the time. In step S12, the time for programs to be organized into virtual channels is obtained to compute the organization allowable time of each list in accordance with the policy values. Alternatively, the number of programs which can be organized into virtual channels in accordance with each policy value may be computed to apply the program count mode for specifying

an adoption ratio to the number of programs to be organized into virtual channels in the subsequent steps.

[0153]

For example, if the number of virtual channels to be generated is 4 and the time zone of these channels is for 3 hours from 20:00 to 23:00, then the number of programs which provides reference for specifying an adoption ratio by the number of program is 4 for each hour. If the policy values of user program viewing tendency information and the group program viewing tendency information are 70% and 30% respectively, 4 × 0.7 = 2.8 programs are organized in virtual channels by the user program viewing tendency information and 4 × 0.3 = 1.2 programs is organized into virtual channels by the group program viewing tendency information. It should be noted that the computed values are corrected to 3 in the user program viewing tendency information and 1 in the group program viewing tendency information so that these values become most close to the policy values.

[0154]

If the policy values of the title list, the category list, and the keyword list are set to 50%, 30%, and 20% respectively, then the number of programs in the title list of the user program viewing tendency

information is 3 × 0.5 = 1.5, the number of programs in the category list is 3 × 0.3 = 0.9, and the number of programs in the keyword list is 3 × 0.2 = 0.6. The computed values are corrected to 1 in the title list, 1 in the category list, and 1 in the keyword list or 2 in the title list, 1 in the category list, and 0 in the keyword list for example, thereby providing the number of programs corresponding to each policy value.

[0155]

In the case of the group program viewing tendency information, only one program is allocated, so that the title list having the highest policy value is given to priority, the organization into virtual channels based on the title list being executed in the following steps.

[0156]

As described, in the following steps, the program count mode may be applied instead of the time count mode to organize programs into virtual channels or a combination of the time count mode and the program count mode may be applied to organize programs into virtual channels. In this case, the organization allowable time in the time count mode and the reference number of programs in the program count mode are computed in step S12.

[0157]

In step S13, the controller 15 replaces start time ST of the virtual program guide to be created by h. This operation is for executing a loop, which will be described later, in the flowcharts shown in FIGS. 4 through 12. For example, if start time ST inputted in step S1 is 20:00, then h = 20:00.

[0158]

In step S14, the controller 15 extracts the 1-hour programs from h o'clock to h + 1 o'clock from the primary temporary program group obtained in step S3 to provide a secondary temporary program group.

[0159]

For example, given h = 20:00, then the controller 15 extracts the program information of the programs belonging to time zone from 20:00 to 21:00 from the primary temporary program group to provide a secondary temporary program group. The secondary temporary program group from 20:00 to 21:00 in the primary temporary group shown in Table 21 is shown in Table 23.

[0160]

[Table 23]

Date	Day	Start Time	Time	Title	Category	keyword
2000.09.01	Friday	20:00:00	0:30:00	News/Stock Price Commentary	6	Sato ○○
2000.09.01	Friday	20:00:00	0:30:00	○○ News	6	Nakamura ○○
2000.09.01	Friday	20:00:00	0:30:00	××Music	4	Kitayama ××
2000.09.01	Friday	20:00:00	2:00:00	△△ Japanese Movie Theater	1	Yamada ◎◎
2000.09.01	Friday	20:00:00	1:00:00	×× Quiz	7	Maeda ××
2000.09.01	Friday	20:00:00	1:00:00	◎◎ Count Down	4	Kitagawa ○○
2000.09.01	Friday	20:00:00	0:30:00	△△ Angler ××	8	Suzuki △△
2000.09.01	Friday	20:00:00	1:00:00	△△ Challenge	7	Takada ××
2000.09.01	Friday	20:00:00	1:00:00	○○ Featuring	A	Murakami □□
2000.09.01	Friday	20:00:00	1:00:00	×× Professional Wrestling	3	Funaki ◎◎
2000.09.01	Friday	20:30:00	0:30:00	◎◎ Introduction	9	Hara △△
2000.09.01	Friday	20:30:00	0:30:00	News & Sports ◎◎	6	Harada ◎◎
2000.09.01	Friday	20:30:00	0:30:00	Olympics □□	3	Takahashi △△

[0161]

It should be noted that, when extracting the secondary temporary program group from the primary temporary program group, the program start time is used as the reference of classification for those programs of which length of broadcast time is for 2 hours starting at 21:00, such as "◎◎ Foreign Movie Theater." Therefore, "◎◎ Foreign Movie Theater" is classified into the secondary temporary program group in time zone 21:00 to 22:00.

[0162]

In step S15, when organizing programs into virtual

channels on the basis of user program viewing tendency information and group program viewing tendency information, the controller 15 determines whether to give priority to the user program viewing tendency information over the group program viewing tendency information. If the user program viewing tendency information is given priority, the procedure goes to step S16; otherwise the procedure goes to step S42 of FIG. 9. To which of the user program viewing tendency information and the group program viewing tendency information priority is given is determined by the policy values inputted in step S1, priority being given to the information having the higher values.

[0163]

For example, if the policy values of the user program viewing tendency information and the group program viewing tendency information are 70% and 30% respectively, then the user program viewing tendency information is given priority, upon which the procedure goes to step S16.

[0164]

In step S16, when organizing programs into virtual channel on the basis of the title list, category list, and keyword list of the user program viewing tendency

information, the controller 15 determines whether to give priority to the title list over the category list and the keyword list. To give priority to the title list, the procedure goes to step S17; otherwise, the procedure goes to step S24 shown in FIG. 6. Whether to give priority to the title list, the category list, or the keyword list is determined by the policy values inputted in step S1, priority being given to the list having the highest policy value.

[0165]

For example, if the policy values of the title list, the category list, and the keyword list are 50%, 30%, and 20% respectively, priority is given to the title list, upon which the procedure goes to step S17.

[0166]

In step S17, the controller 15 compares the programs in the title list of the user program viewing tendency information with the secondary temporary program group. If a matching program is found, the controller 15 retrieves its program information, upon which the procedure goes to step S18; otherwise, the procedure goes to step S22.

[0167]

For example, the title list shown in Table 3 is

used for the title list of the user program viewing tendency information. Because "News/Stock Price Commentary" having the highest value in Table 3 is listed in the secondary temporary program group shown in Table 23, the controller 15 retrieves the program information of this program, upon which the procedure goes to step S18.

[0168]

In step S18, if the program of which program information is retrieved in step S17 is to be organized into a virtual channel, the controller 15 determines whether the organization allowable time of the title list computed in step S12 is exceeded or not. To be more specific, the length of broadcast time of the program of which program information is retrieved is subtracted from the organization allowable time and, if a negative value results, it is determined that the organization allowable time is exceeded.

[0169]

If the organization allowable time is not exceeded, the procedure goes to step S19; otherwise, the procedure goes to step S22.

[0170]

For example, if the program information of

"News/Stock Price Commentary" is retrieved in step S18, the controller 15 subtracts the length of broadcast time, 30 minutes, of "News/Stock Price Commentary" from the organization allowable time, 240 minutes, of the title list obtained in step S12. Because 210 minutes of the organization allowable time remains, the procedure goes to step S19.

[0171]

In step S19, the controller 15 computes a virtual channel free area and compares the computed free area with the length of broadcast time of the program obtained from its program information retrieved in step S17, thereby determining whether this program can be organized into a virtual channel. If the program is found organizable, the procedure goes to step S20; otherwise, the procedure goes to step S22.

[0172]

For example, when organizing 30-minute "News/Stock Price Commentary" which starts at 20:00 into a virtual channel, only 30-minute "○○ Science" starting at 20:30 is arranged in time zone 20:00 of VC-1 having the lowest number, so that "News/Stock Price Commentary" can be organized into VC-1, upon which the procedure goes to step S20.

[0173]

In step S20, the controller 15 organizes the program into the virtual channel and arranges the program information of this program into the virtual program guide.

[0174]

For example, "News/Stock Price Commentary" is organized into VC-1 and its program information is arranged in the virtual program guide as indicated by hatching shown in FIG. 14.

[0175]

In step S21, the controller 15 deletes the program information of the program organized into the virtual channel in step S20 from the secondary temporary program group. For example, the program information of "News/Stock Price Commentary" in the secondary temporary program group listed in Table 23 is deleted.

[0176]

When the process of step 21 has been completed, the procedure goes to step S17.

[0177]

By repeating the processes of steps S17 through S21 from the secondary temporary program group shown in Table 23 and the title list shown in Table 3, the controller 15

organizes "○○ News" of which start time is 20:00:00 into VC-2 and arranges its program information in the virtual program guide. It should be noted that the organization allowable time of the title list is 190 minutes at this point of time.

[0178]

In step S22, the controller 15 determines whether the program organization into virtual channel based on the category list and the keyword list has been completed. If the organization has been completed, the procedure goes to step S23; otherwise, the procedure goes to step S39 shown in FIG. 8.

[0179]

In step S23, the controller 15 determines whether to give priority to the program organization into virtual channel based on the category list over the organization based on the keyword list. If priority is given to the organization based on the category list, the procedure goes to step S25 shown in FIG. 6; otherwise, the procedure goes to step S32 shown in FIG. 7.

[0180]

The priority between the category list and the keyword list is determined by the policy values inputted in step S1, priority being given to the list having the

higher policy value. For example, if the policy values of the category list and the keyword list are 30% and 20% respectively, priority is given to the category list, upon which the procedure goes to step S25.

[0181]

If the program organization into virtual channel based on the category list and the keyword list has already been executed, the one not executed is selected. For example, even if the policy value of the category list is 30% and the policy value of the keyword list is 20% as mentioned above, and if the program organization into virtual channel has already been made on the basis of the category list, priority is given to the keyword list, upon which the procedure goes to step S32 shown in FIG. 7.

[0182]

The processes of steps S24 through S31 are shown in FIG. 6.

[0183]

In step S24, the controller 15 determines whether to give priority to the program organization into virtual channel by the category list of the user program viewing tendency information over the program organization into virtual channel by the keyword list. To give priority to

the category list, the procedure goes to step S25. To give priority to the keyword list, the procedure goes to step S32 shown in FIG. 7. Step S24 is executed only when not to give priority to the program organization into virtual channel by the title list of the user program viewing tendency information.

[0184]

In step S25, the controller 15 compares the programs in the category list of the user program viewing tendency information with the secondary temporary program group. If a matching program is found, the controller 15 retrieves the program information of this program, upon which the procedure goes to step S26; otherwise, the procedure goes to step S30.

[0185]

For example, assume that the category list of the user program viewing tendency information be the category list shown in Table 4 as mentioned above. Table 24 shows a secondary temporary program group obtained by deleting the program information of the program organized into virtual channel from the secondary temporary program group shown in Table 23.

[0186]

[Table 24]

Date	Day	Start Time	Time	Title	Category	keyword
2000.09.01	Friday	20:00:00	0:30:00	×× Music	4	Kitayama ××
2000.09.01	Friday	20:00:00	2:00:00	△△ Japanese Movie Theater	1	Yamada ◎◎
2000.09.01	Friday	20:00:00	1:00:00	×× Quiz	7	Maeda ××
2000.09.01	Friday	20:00:00	1:00:00	◎◎ Count Down	4	Kitagawa ○○
2000.09.01	Friday	20:00:00	0:30:00	△△ Angler ××	8	Suzuki △△
2000.09.01	Friday	20:00:00	1:00:00	△△ Challenge	7	Takada ××
2000.09.01	Friday	20:00:00	1:00:00	○○ Featuring	A	Murakami □□
2000.09.01	Friday	20:00:00	1:00:00	×× Professional Wresting	3	Funaki ◎◎
2000.09.01	Friday	20:30:00	0:30:00	◎◎ Introduction	9	Hara △△
2000.09.01	Friday	20:30:00	0:30:00	News & Sports ◎◎	6	Harada ◎◎
2000.09.01	Friday	20:30:00	0:30:00	Olympics □□	3	Takahashi △△

[0187]

The program categorized into "News/Report" having category number 6, the highest value in Table 4, is "News & Sports ◎◎" of which start time is 20:30:00 in the secondary temporary list shown in Table 24. The controller 15 retrieves the program information of this program, upon which the procedure goes to step S26.

[0188]

In step S26, if the controller 15 organizes the program of which program information was retrieved in step S25 into a virtual channel, the controller 15 determines whether the organization allowable time of the title list computed in step S12 is exceeded or not. To be more specific, for example, the length of broadcast time of the program of which program information was retrieved

is subtracted from the organization allowable time and, if a negative value results, the controller 15 determines that the organization allowable time is exceeded. If the organization allowable time is not exceeded, the procedure goes to step S27; otherwise, the procedure goes to step S30.

[0189]

For example, if the controller 15 retrieved the program information of "News & Sports ◎◎" in step S25, the controller 15 subtracts the length of broadcast time 30 minutes of "News & Sports ◎◎" from the organization allowable time 120 minutes of the category list computed in step S12. Because the result of the subtraction is 90 minutes, the procedure goes to step S27.

[0190]

In step S27, the controller 15 computes a virtual channel free area and compares the computed free area with the length of broadcast time of the program obtained from the program information retrieved in step S25, thereby determining whether the program can be organized into a virtual channel. If the controller 15 determines that the program is found organizable, the procedure goes to step S28; otherwise, the procedure goes to step S25.

[0191]

For example, organizing "News & Sports ◎◎", a 30-minute program starting at 20:30, into virtual channel VC-1 is impossible because, VC-1 which is the lowest number of virtual channels has already been arranged with "News/Stock Price Commentary" starting at 20:00 and 30-minute "○○ Science" starting at 20:30. However, VC-2 has been arranged with only 30-minute "News/Stock Price Commentary" starting at 20:00, so that 30-minute "News/Stock Price Commentary" can be organized into VC-2. Then, the procedure goes to step S28.

[0192]

In step S28, the controller 15 organizes the program into the virtual channel and arranges its program information in the virtual program guide.

[0193]

For example, "News & Sports ◎◎" is organized in the virtual channel VC-2 and the program information is arranged as shown in the hatched portion in FIG. 15.

[0194]

In step S29, the controller 15 deletes the program information of the program organized into the virtual channel in step S28 from the secondary temporary program group. For example, the program information of "News & Sports ◎◎" is deleted from the secondary temporary

program group shown in Table 24.

[0195]

When the process of step 29 has been completed, the procedure returns to step S25.

[0196]

The controller 15 repeats steps S25 through S29 from secondary temporary program group shown in Table 24 and the category list shown in Table 4 to organize "○○ Featuring " of which start time is 20:00:00 selected on the basis of "Culture/Documentary" having category number A into VC-3 and "×× Music" of which start time is 20:00:00 selected on the basis of "Music" having category number 4 into VC-4. Then, the controller 15 arranges the program information of these organized programs into the virtual program guide as shown by hatched portions in FIG. 16. It should be noted that the organization allowable time of the category list at this point of time is 0 minute.

[0197]

In step S30, the controller 15 determines whether the program organization based on the keyword list and the title list into virtual channel has been completed or not. If the organization is found not completed, the procedure goes to step S31; otherwise, the procedure goes

to step S39 shown in FIG. 8.

[0198]

In step S31, the controller 15 determines whether to give priority to the program organization by the keyword list of the user program viewing tendency information over the program organization by the title list. If the program organization by the keyword list is to be prioritized, the procedure goes to step S32 shown in FIG. 7; otherwise, the procedure goes to step S17 shown in FIG. 5.

[0199]

The priority between the keyword list and the title list is determined by the policy values inputted in step S1, priority being given to the list having the higher policy value. For example, if the policy values of the keyword list and the title list are 20% and 50% respectively, priority is given to the title list, upon which the procedure goes to step S17 shown in FIG. 5.

[0200]

It is to be noted that, if the program arrangement into virtual channel based on the keyword list or the title list has already been executed, the one not executed is selected. For example, even if the policy value of the title list is 50% and the policy value of

the keyword list is 30% as mentioned above, and if the program arrangement into virtual channel has already been made on the basis of the title list, priority is given to the keyword list, upon which the procedure goes to step S32 shown in FIG. 7.

[0201]

The processes of steps S32 through S38 are shown in FIG. 7.

[0202]

In step S32, the controller 15 compares the programs in the keyword list of the user program viewing tendency information with the secondary temporary program group. If a matching program is found, the controller 15 retrieves the program information of this program, upon which the procedure goes to step S33; otherwise, the procedure goes to step S37.

[0203]

For example, assume that the category list of the user program viewing tendency information be the category list shown in Table 5. Table 25 shows a secondary temporary program group obtained by deleting the program information of the program organized into virtual channel in step S29 shown in FIG. 6 from the secondary temporary program group shown in Table 24.

[0204]

[Table 25]

Date	Day	Start Time	Time	Title	Category	keyword
2000.09.01	Friday	20:00:00	2:00:00	△△ Japanese Movie Theater	1	Yamada ◎◎
2000.09.01	Friday	20:00:00	1:00:00	×× Quiz	7	Maeda ××
2000.09.01	Friday	20:00:00	1:00:00	◎◎ Count Down	4	Kitagawa ○○
2000.09.01	Friday	20:00:00	0:30:00	△△ Angler ××	8	Suzuki △△
2000.09.01	Friday	20:00:00	1:00:00	△△ Challenge	7	Takada ××
2000.09.01	Friday	20:00:00	1:00:00	×× Professional Wresting	3	Funaki ◎◎
2000.09.01	Friday	20:30:00	0:30:00	◎◎ introduction	9	Hara △△
2000.09.01	Friday	20:30:00	0:30:00	Olympics □□	3	Takahashi △△

[0205]

Because Table 25 lists no program that is categorized into keyword "Sato" having the highest value in Table 5, the controller 15 advances the procedure to step S37.

[0206]

In step S33, if the program of the program information retrieved in step S32 is to be organized into a virtual channel, the controller 15 determines whether the organization allowable time of the title list computed in step S12 is exceeded or not. To be more specific, for example, the length of broadcast time of the program of which program information was retrieved is subtracted from the organization allowable time and, if a negative value results, the controller 15 determines that the organization allowable time is exceeded. If the

organization allowable time is not exceeded, the controller 15 advances the procedure to step S34; otherwise, the controller 15 advances the procedure to step S37.

[0207]

In step S34, the controller 15 computes a virtual channel free area and compares the computed free area with the length of broadcast time of the program obtained from the program information retrieved in step S25, thereby determining whether the program can be arranged into a virtual channel. If the program is found arrangeable, the controller 15 advances the procedure to step S35; otherwise, the controller 15 returns the procedure to step S32.

[0208]

In step S35, the controller 15 organizes the program into the virtual channel and arranges its program information into the virtual program guide.

[0209]

In step S36, the controller 15 deletes the program information of the program organized into the virtual channel in step S35 from the secondary temporary program group. When the process of step S36 has been completed, the procedure returns to step S32.

[0210]

In step S37, the controller 15 determines whether or not the program organization based on the title list and the category list into virtual channel has been completed. If the organization is found not completed, the controller 15 advances the procedure to step S38; otherwise, the controller 15 advances the procedure to step S39 shown in FIG. 8.

[0211]

For example, if the program has been organized into the virtual channel on the basis of the title list and then the program has been organized into the virtual channel on the basis of the category list, the controller 15 advances the procedure to step S39.

[0212]

In step S38, the controller 15 determines whether to give priority to the program organization by the title list of the user program viewing tendency information over the program organization by the category list. If the program organization by the title list is to be prioritized, the controller 15 advances the procedure to step S17 of FIG. 5; otherwise, the controller 15 advances the procedure to step S25 of FIG. 6.

[0213]

The priority between the title list and the category list is determined by the policy values inputted in step S1, priority being given to the list having the higher policy value. For example, if the policy values of the title list and the category list are 50% and 30% respectively, priority is given to the title list. Then the controller 15 advances the procedure to step S17 of FIG.5.

[0214]

It is to be noted that, if the program organization into virtual channel based on the title list or the category list has already been executed, the one not executed is selected. For example, even if the policy value of the title list is 50% and the policy value of the category list is 30% as mentioned above, and if the program arrangement into virtual channel has already been made on the basis of the title list, priority is not given to the title list. Then the controller 15 advances the procedure to step S25 of FIG. 6.

[0215]

The processes of steps S39 through S41 are shown in FIG. 8.

[0216]

In step S39, the controller 15 determines whether

to give priority to the user program viewing tendency information over the group program viewing tendency information. If the user program viewing tendency information is prioritized, the controller 15 advances the procedure to step S40; otherwise, the controller 15 advances the procedure to step S42 shown in FIG. 9. The priority between the user program viewing tendency information and the group program viewing tendency information is determined by the policy values inputted in step S1, priority being given to the information having the higher policy value. For example, if the policy values of the user program viewing tendency information and the group program viewing tendency information are 70% and 30% respectively, then priority is given to the user program viewing tendency information, upon which the procedure goes to step S42 of FIG. 9.

[0217]

In step S40, the controller 15 sets virtual program guide start time h to h + 1 o'clock, proceeding to steps of the program organization into virtual channel of the next time zone. For example, if h = 20:00, then the controller 15 sets h to 21:00.

[0218]

In step S41, the controller 15 determines whether

the number of hours t for creating the virtual program guide inputted in step S1 is exceeded or not. If the number of hours t is found not exceeded, the procedure returns to step S14 of FIG. 5; otherwise, the creation of the virtual program guide comes to an end.

[0219]

For example, if the number of hours t = 3, ST = 20:00, and h = 21:00, then h - ST = 21 - 20 = 1 < 3, the controller 15 returns the procedure to S14.

[0220]

The processes of steps 42 through S49 are shown in FIG. 9.

[0221]

Before executing the processes from step S42, there are two processes depending on the policy values inputted in step S1 shown in FIG. 3. For example, if the policy value of the user program viewing tendency information is higher than that of the group program viewing tendency information, then the program organization into virtual channel on the basis of the title list, category list, and the keyword list of the user program viewing tendency information and the arrangement of the program information of that program into the virtual program guide are executed before executing the program

organization into virtual channel and the arrangement of the program information into the virtual program guide on the basis of the group program viewing tendency information starting with step S42.

[0222]

On the other hand, if the policy value of the group program viewing tendency information is higher than that of the user program viewing tendency information, then the program organization into virtual channel and the arrangement of the program information into the virtual program guide on the basis of the group program viewing tendency information starting with step S42 are executed.

[0223]

In step S42, when executing the program organization into virtual channel on the basis of the title list, category list, and keyword list of the group program viewing tendency information, the controller 15 determines whether to give priority to the title list over the category list and the keyword list. If the title list is to be prioritized, the controller 15 advances the procedure to step S43; otherwise, the controller 15 advances the procedure to step S50 shown in FIG. 10. The priority between title list, category list, and keyword list is determined by the policy values inputted in step

S1, priority being given to the list having the highest value.

[0224]

For example, if the policy values of title list, category list, and keyword list are 50%, 30%, and 20% respectively, the title list is prioritized. Then the controller 15 advances the procedure to step S43.

[0225]

In step S43, the controller 15 compares the programs in the title list of the group program viewing tendency information with the secondary temporary program group. If a matching program is found, the controller 15 retrieves its program information, upon which the controller 15 advances the procedure to step S44; otherwise, the controller 15 advances the procedure to step S48.

[0226]

For example, assume that the title list of the group program viewing tendency information be the title list shown in Table 12. And assume that Table 25 be used as a secondary temporary program group.

[0227]

Because "×× Professional Wrestling" having the highest value in Table 12 is listed in the secondary

temporary program group in Table 25, the controller 15 retrieves its program information, upon which the procedure goes to step S44.

[0228]

In step S44, if the program retrieved in step S43 is to be organized into a virtual channel, the controller 15 determines whether or not the organization allowable time of the title list computed in step S12 of FIG. 5 is exceeded. To be more specific, for example, the length of broadcast time of the program is subtracted from the organization allowable time and, if a negative value results, the controller 15 determines that the organization allowable time is exceeded. If the organization allowable time is found not exceeded, the controller 15 advances the procedure to step S45; otherwise, the controller 15 advances the procedure to step S48.

[0229]

For example, when "×× Professional Wrestling" was retrieved in step S43, the controller 15 subtracts the length of broadcast time, 60 minutes, of "×× Professional Wrestling" from the organization allowable time, 90 minutes, of the title list computed in step S12. The subtraction result is 30 minutes, so that the

procedure goes to step S45.

[0230]

In step S45, the controller 15 computes a virtual channel free area and compares the computed free area with the length of broadcast time obtained from the program information retrieved in step S43, thereby determining whether the program can be organized into a virtual channel. If the program is found organizable, the controller advances the procedure to step S47; otherwise, the controller 15 advances the procedure to step S43.

[0231]

For example, assume that the 60-minute "××Professional Wrestling" starting from 20:00 be organized into a virtual channel. Because the virtual channel free area in 20:00 is found in the 30 minutes from 20:30 in VC-4, "×× Professional Wrestling" cannot be organized in any virtual channel, upon which the procedure returns to step S43.

[0232]

In step S46, the controller 15 organizes the program into the virtual channel and arranges its program information into the virtual program guide.

[0233]

In step S47, the controller 15 deletes the program

information of the program organized into the virtual channel in step S46 from the second temporary program group. When step S47 has been completed, the procedure goes to step S43.

[0234]

Because no matching program is found between the secondary temporary program group shown in Table 25 and the title list, the controller 15 does not execute the program organization into virtual channel on the basis of the title list of the group program viewing tendency information.

[0235]

In step S48, the controller 15 determines whether or not the program organization into virtual channel on the basis of the category list and keyword list has been completed. If the program organization is found not completed, the controller 15 advances the procedure to step S49; otherwise, the controller 15 advances the procedure to step S65 shown in FIG. 12.

[0236]

In step S49, the controller 15 determines whether to give priority to the program organization into virtual channel on the basis of the category list of the group program viewing tendency information over the program

organization on the basis of the keyword list. If priority is given to the program organization on the basis of the category list, the controller 15 advances the procedure to step S51 shown in FIG. 10; otherwise, the controller 15 advances the procedure to step S58 shown in FIG. 11.

[0237]

The priority between the category list and the keyword list is determined by the policy values inputted in step S1, priority being given to the list having the higher policy value. For example, if the policy values of the category list and the keyword list are 30% and 20% respectively, the category list is prioritized. Then the controller 15 advances the procedure to step S51.

[0238]

If the program organization into virtual channel based on the category list or the keyword list has already been executed, the one not executed is selected. For example, even if the policy value of the category list is 30% and the policy value of the keyword list is 20% as mentioned above, and if the program organization into virtual channel has already been made on the basis of the category list, priority is not given to the category list, upon which the procedure goes to step S58

of FIG. 11.

[0239]

The processes of steps S50 through S57 are shown in FIG. 10.

[0240]

In step S50, the controller 15 determines whether to give priority to the program organization into virtual channel by the category list of the group program viewing tendency information over that by the keyword list. If priority is given to the program organization by the category list, then the procedure goes to step S51. If priority is given to the program organization by the keyword list, then the procedure goes to step S58 shown in FIG. 11.

[0241]

Step S49 is executed only when priority is not given to the program organization into virtual channel by the title list of the group program viewing tendency information in step S16 of FIG. 5.

[0242]

In step S51, the controller 15 compares the programs in the category list of the group program viewing tendency information with the secondary temporary program group. If a matching program is found, the

controller 15 retrieves its program information, upon which the procedure goes to step S52; otherwise, the procedure goes to step S56.

[0243]

For example, assume that the category list of the group program viewing tendency information be the category list shown in Table 13. And assume that Table 25 be used as a secondary temporary program group.

[0244]

The programs categorized into "Sports 2" having the highest category number 3 in Table 13 are "×× Professional Wrestling" of which StartTime is 20:00:00 and "Olympics □□" of which StartTime is 20:30:00 in the secondary temporary program group shown in Table 25. Since "×× Professional Wrestling" is found not organizable in step S45, the controller 15 retrieves the program information of "Olympics □□," upon which the procedure goes to step S52.

[0245]

In step S52, when organizing the program retrieved in step S51 into a virtual channel, the controller 15 determines whether or not the organization allowable time of the title list computed in step S12 of FIG. 5 is exceeded. To be more specific, for example, the length of

broadcast time of the retrieved program is subtracted from the organization allowable time. If a negative value results, the controller 15 determines that the organization allowable time is exceeded. If the organization allowable time is found not exceeded, the controller 15 advances the procedure to step S53; otherwise, the controller 15 advances the procedure to step S56.

[0246]

For example, if the program information of "Olympics □□" was retrieved in step S51, the controller 15 subtracts the length of broadcast time, 30 minutes, of "Olympics □□" from the organization allowable time, 60 minutes, of the category list computed in step S12. Because the subtraction result is 30 minutes, the controller 15 determines that the organization allowable time is not exceeded, then advances the procedure to step S53.

[0247]

In step S53, the controller 15 computes a virtual channel free area and compares the computed free area with the length of broadcast time of the program obtained from its program information retrieved in step S51, thereby determining whether or not the program can be

organized into a virtual channel. If the program is found organizable, the controller 15 advances the procedure to step S54; otherwise, the controller 15 returns the procedure to step S51.

[0248]

For example, when organizing 30-minute "Olympics □□" starting at 20:30 into a virtual channel, a free area of the virtual channel is matched with a free area of 30 minutes found in VC-4 starting at 20:30, so that this program can be organized into VC-4. Therefore, the procedure goes to step S54.

[0249]

In step S54, the controller 15 organizes the program into the virtual channel and arranges its program information into the virtual program guide.

[0250]

For example, the controller 15 organizes "Olympics □□" into VC-4 and arranges the program information into the virtual program guide as indicated by the hatched portion shown in FIG. 17.

[0251]

In step S55, the controller 15 deletes the program information of the program organized into the virtual channel in step S54 from the secondary temporary program

group. For example, the program information of "Olympics □□" is deleted from the secondary temporary program group shown in Table 25 to provide Table 26.

[0252]

[Table 26]

Date	Day	Start Time	Time	Title	Category	keyword
2000.09.01	Friday	20:00:00	2:00:00	△△ Japanese Movie Theater	1	Yamada ◎◎
2000.09.01	Friday	20:00:00	1:00:00	×× Quiz	7	Maeda ××
2000.09.01	Friday	20:00:00	1:00:00	◎◎ Count Down	4	Kitagawa ○○
2000.09.01	Friday	20:00:00	0:30:00	△△ Angler DD	8	Suzuki △△
2000.09.01	Friday	20:00:00	1:00:00	△△ Challenge	7	Takada ××
2000.09.01	Friday	20:00:00	1:00:00	×× Professional Wresting	3	Funaki ◎◎
2000.09.01	Friday	20:30:00	0:30:00	◎◎ Introduction	9	Hara △△

[0253]

When step S55 has been completed, the procedure returns to step S51.

[0254]

Since there is no program which corresponds to the secondary temporary program group shown in Table 26 and the category list shown in Table 13, the controller 15 cannot organize any program into a virtual channel. It should be noted that the organization allowable time of the category list at this point of time is 30 minutes.

[0255]

In step S56, the controller 15 determines whether or not the program organization into virtual channel on the basis of the keyword list and the title list has been

completed. If the program organization is found not completed, then the controller 15 advances the procedure to step 57; otherwise, the controller 15 advances the procedure to step S65 shown in FIG. 12.

[0256]

In step S57, the controller 15 determines whether to give priority to the program organization into virtual channel by the keyword list of the group program viewing tendency information over that by the title list. If priority is given to the program organization by the keyword list, the controller 15 advances the procedure to step S58 shown in FIG. 11; otherwise, the controller 15 advances the procedure to step S43 shown in FIG. 9.

[0257]

The priority between the keyword list and the title list is determined by the policy values inputted in step S1, priority being given to the list having the higher policy value. For example, if the policy values of the keyword list and the title list are 20% and 50% respectively, the title list is prioritized. Then the controller 15 advances the procedure to step S43 shown in FIG. 9.

[0258]

If the program organization into virtual channel

based on the keyword list or the title list has already been executed, the one not executed is selected. For example, even if the policy value of the title list is 50% and the policy value of the keyword list is 30% as mentioned above, and if the program organization into virtual channel has already been made on the basis of the title list, priority is given to the keyword list, upon which the procedure goes to step S51.

[0259]

The processes of steps S58 through S64 are shown in FIG. 11.

[0260]

In step S58, the controller 15 compares the programs in the keyword list of the group program viewing tendency information with the secondary temporary program group. If a matching program is found, the controller 15 retrieves its program information, upon which the procedure goes to step S59; otherwise, the procedure goes to step S63.

[0261]

For example, assume that the category list of the group program viewing tendency information be the category list shown in Table 14. And assume that Table 26 be used as a secondary temporary program group.

[0262]

Because no program having any keyword of the keyword list of Table 15 as program information is found in Table 26, the controller 15 advances the procedure to step S63.

[0263]

In step S59, when organizing the program retrieved in step S58 into a virtual channel, the controller 15 determines whether or not the organization allowable time of the title list computed in step S12 of FIG. 5 is exceeded. To be more specific, for example, the length of broadcast time of the retrieved program is subtracted from the organization allowable time. If a negative value results, the controller 15 determines that the organization allowable time is exceeded. If the organization allowable time is found not exceeded, the controller 15 advances the procedure to step S60; otherwise, the controller 15 advances the procedure to step S63.

[0264]

In step S60, the controller 15 computes a virtual channel free area and compares the computed free area with the length of broadcast time of the program obtained from its program information retrieved in step S58,

thereby determining whether or not the program can be organized into a virtual channel. If the program is found organizable, the controller 15 advances the procedure to step S61; otherwise, the controller 15 returns the procedure to step S58.

[0265]

In step S61, the controller 15 organizes the program into the virtual channel and arranges its program information into the virtual program guide.

[0266]

In step S62, the controller 15 deletes the program information of the program organized into the virtual channel in step S61 from the secondary temporary program group.

[0267]

When step S62 has been completed, the procedure returns to step S58.

[0268]

In step S63, the controller 15 determines whether or not the program organization on the basis of the title list and the category list has been completed. If the program organization is found not completed, procedure goes to step S64. If the program organization is found completed, the procedure goes to step S65 shown in FIG.

12.

[0269]

For example, if the program was first organized into a virtual channel on the basis of the title list and then the program was organized into the virtual channel on the basis of the category list, the controller 15 advances the procedure to step S65 shown in FIG. 12.

[0270]

In step S64, the controller 15 determines whether to give priority to the program organization into virtual channel by the title list of the group program viewing tendency information over the program organization by the category list. If priority is given to the program organization by the title list, the controller 15 advances the procedure to step S43 shown in FIG. 9; otherwise, the controller 15 advances the procedure to step S51 shown in FIG. 10.

[0271]

The priority between the title list and the category list is determined by the policy values inputted in step S1, priority being given to the list having the higher policy value. For example, if the policy values of the title list and the category list are 50% and 30% respectively, the title list is prioritized. Then the

controller 15 advances the procedure to step S43.

[0272]

If the program organization into virtual channel based on the title list or the category list has already been executed, the one not executed is selected. For example, even if the policy value of the title list is 50% and the policy value of the category list is 30% as mentioned above, and if the program organization into virtual channel has already been made on the basis of the title list, priority is not given to the title list, upon which the procedure goes to step S51 shown in FIG. 10.

[0273]

The process of steps S65 through S67 are shown in FIG. 12.

[0274]

In step S65, the controller 15 determines whether priority has been given to the user program viewing tendency information over the group program viewing tendency information in step S15. If the user program viewing tendency information is found prioritized, the controller 15 advances the procedure to step S66; otherwise, the controller 15 advances the procedure to step S16 shown in FIG. 5. The priority between user program viewing tendency information and group program

viewing tendency information is determined by the policy values inputted in step S1, priority being given to the higher value. For example, if the policy values of user program viewing tendency information and group program viewing tendency information are 70% and 30% respectively, then the user program viewing tendency information is prioritized. Then the controller 15 advances the procedure to step S66.

[0275]

In step S66, the controller 15 sets virtual program guide start time h to h + 1 o'clock, proceeding to steps of the program organization into virtual channel of the next time zone. For example, if h = 20:00, then the controller 15 sets h to 21:00.

[0276]

In step S67, the controller 15 determines whether or not the number of hours t for creating the virtual program guide inputted in step S1 is exceeded. If the number of hours t is found not exceeded, the procedure returns to step S14 shown in FIG. 5; otherwise, the creation of the virtual program guide comes to an end.

[0277]

For example, if the number of hours t = 3, ST = 20:00, and h = 21:00, then h - ST = 21 - 20 = 1 < 3, so

that the procedure returns to S14.

[0278]

In step S14, the controller 15 extracts the programs of which broadcast start times are from 21:00 to 22:00 from the primary temporary program group to provide a secondary temporary program group.

[0279]

Thus, the controller 15 repeats the steps S14 through S67 to extract a secondary temporary program group from the primary temporary program group every hour, thereby organizing the programs into virtual channels on the basis of user program viewing tendency information and group program viewing tendency information and arranging their program information into the virtual program guide. For example, if the number of hours t of the virtual program guide is 3, then a desired virtual program guide can be created by repeating the above-mentioned processing loop three times.

[0280]

For example, in a loop from 21:00 to 22:00, 60-minute "World ○○ Soccer" is organized in VC-1 at the position of 21:00 on the basis of user program viewing tendency information and then 120-minute "◎◎ Foreign Movie Theater" is organized into VC-2 at the position of

21:00, their program information being arranged into the virtual program guide. Because there is no organization allowable time in the category list of user program viewing tendency information, the program organization into virtual channel is impossible. On the basis of the keyword list of user program viewing tendency information, 60-minute "Ruins ◎◎ Exploration" is organized into VC-3 at the position of 21:00, its program information being arranged in the virtual program guide.

[0281]

Next, on the basis of the title list of group program viewing tendency information, 60-minute "Friday Drama ◎◎" is organized into VC-4 at the position of 21:00, its program information being arranged into the virtual program guide. In the category list of group program viewing tendency information and the keyword list of group program viewing tendency information, all programs have already been organized in virtual channels in time zone 21:00, so that no further organization is allowed.

[0282]

For example, in a loop from 22:00 to 23:00, because there is no organization allowable time in the title list and category list of user program viewing tendency

information, the program organization into virtual channel is impossible. Therefore, on the basis of the keyword list of user program viewing tendency information, 30-minute "Bowling △△" is organized into VC-3 at the position of 22:30, its program information being arranged into the virtual program guide.

[0283]

In the title list and category list of group program viewing tendency information, the organization allowable time is not enough for organizing any program into virtual channel. Therefore, on the basis of the keyword list of group program viewing tendency information, 30-minute "News ◎◎" is organized into VC-4 at the position of 22:30, its program information being arranged into the virtual program guide.

[0284]

One example of the virtual program guide thus created by the processes shown in FIGS. 4 through 12 is shown in FIG. 18.

[0285]

In the virtual program guide providing system 10, programs are organized into virtual channels from the user program viewing tendency information obtained from the user program viewing logs stored in the database 12

and from the group program viewing tendency information obtained from the program viewing logs stored in the database 12 of the users belonging to the group obtained by the classification made on the basis of the personal information stored in the database 13. Then, the program information of the organized programs is arranged on the basis of the virtual channels. Consequently, a virtual program guide suited for the preference of a user group to which a particular user belongs.

[0286]

It should be noted that the controller 15 of the virtual program guide generating apparatus 20 can add channels organized with programs selected by an influential opinion leader or personalities representative of generations for example to virtual channels and provide a virtual program guide based on the program information of these programs to the user at the terminal apparatus 2.

[0287]

The user can forcibly push other desired programs into virtual channels by inputting operation through the terminal apparatus 2 than those programs which are organized into virtual channels on the basis of the absolute viewing programs stored in the database 13, the

user program viewing tendency information stored in the database 12, and the group program viewing tendency information stored in the database 14.

[0288]

For example, an ordinary program guide arranged with ordinary channel program information is presented to the user through the terminal apparatus 2 and lets the user click "Must See" button in each program information box, upon which the controller 15 of the virtual program guide generating apparatus 20 forcibly organizes that specified program into a virtual channel. When a program is organized into a virtual channel by clicking "Must See" button, the specified program is organized into a time zone equivalent to the lowest virtual channel number.

[0289]

The program forcibly organized into a virtual channel is reflected on user program viewing tendency information and group program viewing tendency information, incrementing the values of the title, category, and keyword of user program viewing tendency information and group program viewing tendency information.

[0290]

The program service providing apparatus 6 having

the virtual program guide generating apparatus 20 executes statistical processing by use of the user program viewing tendency information stored in the database 12 and the group program viewing tendency information stored in the database 14 which are used for generating a virtual program guide through the virtual program guide generating apparatus 20, thereby providing customer analysis information including the program viewing tendency classified by age, gender, and occupation for example.

[0291]

The program service providing apparatus 6 provides this customer analysis information to the advertiser 4 by permission of the user to collect the information fee from the advertiser 4. The program service providing apparatus 6 appropriates the collected information fee for the funds for operating the virtual program guide providing system 10 or for the cut-down portion of the service usage charge to be collected from the terminal apparatus 2.

[0292]

The advertiser 4 can obtain the customer analysis information by paying the information fee to the program service providing apparatus 6. With the obtained customer

analysis information, the advertiser 4 can identify the programs in which to advertise or develop a new advertisement strategy.

[0293]

Further, if a product advertised by the advertiser 4 through the program service providing apparatus 6 is purchased by the terminal apparatus 2, the advertiser 4 may provide a part of the product sale cost to the program service providing apparatus 6.

[0294]

The following describes a program preset recording service for presetting the recording of user-specified predetermined programs to a recording medium on the basis of the virtual program guide generated as described above.

[0295]

The program preset recording service allows the user to record the programs listed in the virtual program guide to a recording medium in a predetermined recording apparatus or the terminal apparatus 2 by an easy method, the virtual program guide being generated by the virtual program guide generating apparatus 20 installed in the program service providing apparatus 6.

[0296]

In order to provide the program preset recording

service, the program service providing apparatus 6 constitutes a program recording system 30 by a program preset recording setting script generating apparatus 21 for generating program preset recording setting scripts as commands for the preset recording of programs, the terminal apparatus 2, and a recording apparatus 23, as shown in FIG. 19.

[0297]

The program preset recording setting script generating apparatus 21 has the databases 11, 12, 13, and 14 and a controller 16. To be more specific, the program preset recording setting script generating apparatus 21 has the databases 11, 12, 13, and 14 equipped on the virtual program guide generating apparatus 20 described with reference to the above-mentioned virtual program guide providing system 10 and the controller 16 obtained by adding a program preset recording setting script generating capability to the controller 15 of the virtual program guide generating apparatus 20.

[0298]

The program preset recording setting script generating apparatus 21 generates a virtual program guide by following the processes described by the flowcharts shown in FIGS. 4 through 12 as described above. Then, the

program preset recording setting script generating apparatus 21 generates a program preset recording setting script, which is a command for recording the generated virtual program guide to a recording medium, and sends the generated script to the terminal apparatus 2.

[0299]

The following describes the program preset recording setting script. A program preset recording setting script is composed of a declaration statement for starting a program preset recording setting script, a command ID for specifying a recording command, a device ID for specifying a recording device, an infra ID, a channel number of a program to be broadcast, a program broadcast start time, which is the time the program is broadcast, a program broadcast end time, which is the time the broadcast of the program is ended (which may be replaced by the number of broadcast hours), a title of the program to be broadcast, and a declaration statement for specifying the end of the program preset recording setting script, for example. A program preset recording setting script is generated on the basis of virtual channels, but the user can customize the generated script. In addition to the virtual channel mode in which a program preset recording setting script, which is a

control command for directly recording a program to be virtually broadcast in a virtual channel, is generated, there are two modes which are used to customize virtual channels.

[0300]

Before describing these two virtual channel customizing modes, ordinary channels and preference channels will be described.

[0301]

The ordinary channels are those contract channels and channels viewable by the user, among the channels having a predetermined frequency band.

[0302]

A preference channel is one that is selected by the user from among ordinary channels in accordance with user's preference. For example, assume that there be 10 ordinary channels 1 through 10. Assume again that, of these channels, the user often view channel 3, which is movie only channel, and channel 5, which is news only channel. Assume that this user also often view channel 8, which is drama only channel. Then, assume that this user specify channel 3 and channel 8 as his preference channels. These specified channels are the preference channels of this user.

[0303]

One of the two customizing modes is the preference channel mode in which the user can customize virtual channels by use of his preference channels. The preference channel mode allows the user to replace programs organized into virtual channels by programs to be broadcast in preference channels, by issuing a user command.

[0304]

The other customizing mode is the ordinary channel mode for customizing virtual channels by use of ordinary channels. The ordinary channel mode allows the user to replace programs organized into virtual channels by programs to be broadcast in ordinary channels, by issuing a user command.

[0305]

The terminal apparatus 2 incorporates a ground wave receiving tuner, a BS (Broadcasting Satellite) tuner, and a CS (Communications Satellite) tuner. Each of these tuners receives modulated programs transmitted by a carrier having a predetermined frequency and demodulates the received programs into programs consisting of video and audio signals. The terminal apparatus 2 has a recording section for recording the received programs to

a recording medium pre-installed in the recording section or a recording medium which is detachably loaded into the recording section. The recording medium is a magnetic tape, a magnetic disk, a magneto-optical disk, or an optical disk, for example. The terminal apparatus 2 receives a program preset recording setting script from the program preset recording setting script generating apparatus 21. The controller of the terminal apparatus 2 converts the received program preset recording setting script into a preset recording control signal suitable for the processing by the recording section and controls the recording section in accordance with the converted preset recording control signal to record it to the recording medium.

[0306]

At the same time, the terminal apparatus 2, when transmitting a program preset recording setting script to the recording apparatus 23 specified in the program preset recording setting script, converts the program preset recording setting script into a control signal suitable for each recording apparatus 23. For example, the terminal apparatus 2 converts the program preset recording setting script into an IR (Infra Red) control signal, a LAN (Local Area Network) control signal, or an

iLINK (trademark) control signal.

[0307]

The recording apparatus 23 incorporates a ground wave receiving tuner, a BS tuner, and a CS tuner. Each tuner receives modulated programs transmitted on a carrier having a predetermined frequency and demodulates the received programs into programs consisting of video and audio signals. The recording apparatus 23 has a recording section for recording the received programs to a recording medium pre-installed in the recording section or a recording medium which is detachably loaded into the recording section. The recording medium is a magnetic tape, a magnetic disk, a magneto-optical disk, or an optical disk, for example. The recording apparatus 23 receives a preset recording control signal based on the program preset recording setting script received from the terminal apparatus 2. The controller of the recording apparatus 23 receives the preset recording control signal from the terminal apparatus 2 and controls the recording section in accordance with the received preset recording control signal to record it to the recording medium.

[0308]

The recording apparatus 23 incorporates a tuner shown in a recording apparatus 23a shown in FIG. 19 and

uses a magnetic tape for a recording medium or is a device composed of separate tuner and recording section shown by 23b. The recording apparatus 23 may also be composed of a plurality of tuner-incorporated recording devices or recording devices externally attached with tuners. If a generated program preset recording setting script is made up of n virtual channels, the tuners can simultaneously receive n channels and the received programs of n channels can be combined into a recordable form, thereby setting the preset recording of all programs of virtual channels.

[0309]

If a program preset recording setting script to be transmitted to the terminal apparatus 2 is made up of n virtual channels, the recording device may be tuners capable of receiving n channels and n recording sections accommodated in one recording apparatus 23.

[0310]

The following describes an operation of generating a program preset recording setting script by the program preset recording setting script generating apparatus 21 with reference to the flowchart shown in FIG. 20.

[0311]

In step S101, the controller 16 organizes programs

to be broadcast into a virtual channels as described above with reference to the flowcharts shown in FIGS. 4 through 12 and arranges the program information of these organized programs, thereby generating a virtual program guide. For example, a virtual program guide as shown in FIG. 18 is generated. The controller 16 transmits the generated virtual program guide to the terminal apparatus 2. The terminal apparatus 2 receives the virtual program guide and displays it on the display section, as shown in FIG. 18.

[0312]

In step S102, the controller 16, in response to the input made by the user at the terminal apparatus 2, determines whether to generate program preset recording setting script in the virtual channel mode, the preference channel mode, or the ordinary channel mode. If the virtual channel mode is selected, the procedure goes to step S107. If the ordinary channel mode is selected, the procedure goes to step S103. If the preference mode is selected, the procedure goes to step S105.

[0313]

In step S103, the controller 16 presents an ordinary channel program guide to the terminal apparatus 2. For example, the ordinary channel program guide is one

as shown in FIG. 21. The user views this ordinary program guide on the display section of the terminal apparatus 2. The presented ordinary program guide is the same in time zone as a virtual program guide.

[0314]

In step S104, the controller 16, in response to the input by the user at the terminal apparatus 2, organizes the programs selected from the ordinary program guide into virtual channels and arranges the program information of these programs into a virtual program guide.

[0315]

For example, in order to arrange "×× Professional Wrestling" starting at 20:00 on CH1 into the virtual program guide for preset recording, the controller 16 specifies a program in the virtual program guide to be replaced by "DD Professional Wrestling" and deletes the specified program from the virtual program guide. The deletion is effected by clicking "Cancel" button as shown in FIG. 22 in each program information box in the virtual program guide, for example. In this example, "oo News" and "News & Sports" on VC-2 are deleted.

[0316]

Then, when the user clicks "Preset" button in the

program information box of "×× Professional Wrestling," this program is organized into the virtual channel and its program information is arranged into the virtual program guide at the position of 20:00 on VC-2.

[0317]

The program organized into the virtual channel by clicking "Preset" button is reflected onto to user program viewing tendency information and group program viewing tendency information, thereby incrementing the values of the title, category, and keyword in these information.

[0318]

The controller 16 determines whether the program organized from ordinary channel to virtual channel with its program information arranged in the virtual program guide is a program of a series by checking the program information stored in the database 11. If the program is found in series, the controller 16 stores it as an initial condition for virtual channel organization, the initial condition being automatically used for a next virtual channel organizing operation.

[0319]

In step S105, the controller 16 presents the programs arranged in the preference channel program guide

to the terminal apparatus 2. For example, assume that CH1, CH3, CH5, and CH9 be registered by the user as preference channels. A preference channel program guide is as shown in FIG. 24, which is shown on the display section of the terminal apparatus 2 for the presentation to the user. The presented preference channel program guide is the same in time zone as the virtual program guide.

[0320]

In step S106, in response to the input by the user at the terminal apparatus 2, the controller 16 organizes the programs selected by the user from preference channel into virtual channel and arranges their program information into the virtual program guide. The arrangement is made in the same manner in which the program information is arranged from ordinary channel program guide to virtual program guide.

[0321]

Here, the controller 16 determines whether the program organized from preference channel into virtual program guide with its program information arranged into the virtual program guide is a series by checking the program information stored in the database 11. If the program is found in series, the controller 16 stores it as an initial condition for virtual channel organization,

the initial condition being automatically used for a next virtual channel organizing operation.

[0322]

In step S107, in response to the input by the user, the controller 16 selects the recording section of the terminal apparatus 2 or the recording apparatus 23 to which a preset recording control signal is transmitted. For example, this selection is executed by displaying a selection menu for selecting the recording section of the terminal apparatus 2 and the recording apparatus 23 represented by icons 31, 32, and 33 as shown in FIG. 25. The user clicks any of the icons for selection. Icon 31 shown in FIG. 25 represents a HDD (Hard Disk Drive) of the terminal apparatus 2 for example, icon 32 represents a VTR (Video Tape Recorder) of the terminal apparatus 23a, and icon 33 represents a DV (Digital Video) of the terminal apparatus 23b.

[0323]

It should be noted that the recording section of the terminal apparatus 2 and the recording apparatus 23 are assumed to have been registered by the user when the user used the services in the program recording system 30. When the recording section of the terminal apparatus 2 or the recording apparatus 23 is selected, an icon of the

selected recording device is displayed in each program information column of the virtual program guide, whereby it can be understood that which one of recording sections of the terminal apparatus 2 or which one of recording devices 23 is selected.

[0324]

In step S108, the controller 16 determines whether to generate a recording-by-program preset recording setting script or a bulk preset recording setting script. To generate the recording-by-program preset recording setting script, the procedure goes to step S109. To generate the bulk preset recording setting script, the procedure goes to step S110.

[0325]

The recording-by-program preset recording setting script is generated for each program. For example, as shown in FIG. 26, the recording-by-program preset recording setting script specifies which of the recording apparatuses 23 is to be used by one script and which of the programs on which of the channels is to be preset for recording.

[0326]

The bulk preset recording setting script specifies the preset recording of two or more different programs by

one script. For example, as shown in FIG. 27, the bulk preset recording setting script generates only one script when presetting two or more programs for recording on two or more recording apparatuses 23.

[0327]

In step S109, the controller 16 generates the recording-by-program preset recording setting script and transmits it to the terminal apparatus 2.

[0328]

In step S110, the controller 16 generates the bulk preset recording setting script and transmits it to the terminal apparatus 2.

[0329]

Each program preset recording setting script generated in steps S101 through S110 is converted into a required signal to be transmitted to the recording section of the terminal apparatus 2 or the recording apparatus 23, upon which the setting of preset recording of the specified programs is executed.

[0330]

It should be noted that the program preset recording setting script generating apparatus 21 of the program recording system 30 can also transmit generated virtual program guides to mobile terminal apparatuses.

The mobile terminal apparatuses include a mobile telephone having a display section for displaying text data and image data and a PDA (Personal Digital Assistants) for example, which can transfer/receive information via the Internet. The mobile terminal apparatus receives the virtual program guide sent from the program preset recording setting script generating apparatus 21 and presents the received virtual program guide to the user through the display section. The user references the virtual program guide and checks programs to be set for preset recording and transmits a control command for controlling the generation of a program preset recording setting script to the program preset recording setting script generating apparatus 21, thereby generating the preset recording setting script. In response to the control command received from the mobile terminal apparatus, the preset recording setting script generating apparatus 21 generates the program preset recording setting script in the procedure shown in above-mentioned steps S101 through S110 to set the recording section of the terminal apparatus 2 or the recording apparatus 23 for preset recording. The preset recording setting command inputted from the mobile terminal apparatus is reflected onto user program viewing tendency

information and group program viewing tendency information at the time of virtual channel organization, thereby incrementing the title, category, and keyword values of the program concerned.

[0331]

Thus, in the program recording system 30, the program preset recording setting script generating apparatus 21 generates a program preset recording setting script, which is a control command for recording a program to a recording medium, and controls the recording to the recording section of the terminal apparatus 2 or the program of the recording apparatus 23 by the control command based on the generated program preset recording setting script, thereby recording to a specified recording medium the programs of user preference or preference of a group to which the user belongs.

[0332]

The example mentioned above shows the virtual program guide generating apparatus 20 which organizes programs to be broadcast in a plurality of real channels having a predetermined frequency band into virtual channels and transmits a virtual program guide generated on the basis of virtual program guide and the virtual program guide providing apparatus 10 which has the

terminal apparatus 2 for receiving the virtual program guide from the virtual program guide generating apparatus 20 and presenting the received virtual program guide to the user.

[0333]

The virtual program guide generating apparatus 20 of the virtual program guide providing system 10 may be replaced by a virtual content program guide generating apparatus which selects content in accordance with a predetermined selection reference, organizes the selected content into a virtual content group, and generates a virtual content program guide listing content information indicative of the attribute of each content on the basis of the virtual content group.

[0334]

When providing content including at least one of still image data, moving image data, audio data, and text data managed by one or more content providing apparatuses to the terminal apparatus 2 in download format or streaming format via an information transmission medium such as the Internet, the virtual content program guide generating apparatus organizes content having high user preference into a virtual content group and generates a content program guide arranged with content information

on the basis of the virtual content group.

[0335]

The following describes a virtual content group and a virtual content program guide to be generated in the present invention.

[0336]

One or more content providing apparatuses which store and manage the content to be provided to users stores plural pieces of content including at least one of still image data, moving image data, audio data, and text data. A collection of these pieces of content is an actual, real content group.

[0337]

On the other hand, a virtual content group is generated by selecting pieces of content from the real content group on the basis of user preference and content attribute information and organizing the selected pieces of content into a group on a virtual basis, thereby making it appear as if only the pieces of content preferred by the user are stored in a content providing apparatus as content resources. The virtual content group corresponds to virtual channels organized by the virtual program guide providing apparatus 20.

[0338]

The virtual content program guide visually presents the content generated by the above-mentioned virtual content group to a user. The virtual content program guide also corresponds to a virtual program guide generated by the virtual program guide providing apparatus 2.

[0339]

The virtual content program guide generating apparatus applies the method in which the controller 15 of the virtual program guide generating apparatus 20 generates a virtual program guide by following the processes of steps S1 through S67 on the basis of the user program viewing tendency information and group program viewing tendency information generated from the user program viewing logs stored in the database 12 to generate a virtual content program guide on the basis of the user's content usage tendency information equivalent to the user program viewing tendency information generated from the user's content usage logs and/or the group content usage tendency information of a group to which the user belongs equivalent to the group program viewing tendency information.

[0340]

The virtual content group is of two kinds: one is a

virtual content group which is a collection of pieces of content and the other is a virtual content group which is obtained by organizing pieces of content having the concept of time into a time series in accordance with user's usage form.

[0341]

If, among the pieces of content which are transmitted from the content providing apparatus to the terminal apparatus 2, the pieces of content which are not restricted in transmission date are organized into one group as a virtual content group, this group of content is organized as a simple content group having no concept of time-dependent sequence.

[0342]

On the other hand, those pieces of content which are restricted in transmission date or which have the concept of time as attribute information in which significance is given only when provided to the user in a predetermined sequence can also be organized into a virtual content group by considering the content of time-dependent sequence on the basis of content information, which is content attribute information, and/or user content usage tendency information and/or group content usage tendency information. The virtual content group

with the concept of time-dependent sequence considered denotes a virtual content group which is so organized that no discrepancy occurs when the user uses the content and the pieces of the content in the group are ordered in an easy to understand manner. For example, in the case of a drama series, the first story and the second story are organized in the order of elapsed time. Also, in the case of stock news, they may be organized in the order of elapsed time.

[0343]

Further, the virtual content program guide generating apparatus can apply the method in which the program preset recording setting script, which is a control command for recording programs from the virtual program guide to a recording medium, is generated by following the procedure shown in steps S101 through S110 to generate a content preset recording setting script on the basis of the virtual content program guide generated as described above, thereby recording the content from the recording section of the terminal apparatus 2 or the recording apparatus 23 in the program recording system 30 to a corresponding recording medium.

[0344]

The virtual content program guide generating

apparatus configured as described above can generate a virtual content program guide to present the content of high user preference when providing the content including at least one of still image data, moving image data, audio data, and text data by each content providing apparatus.

[0345]

In addition, the virtual content program guide generating apparatus can generate a virtual content program guide considering the concept of time when providing the content which must be scheduled because it takes a predetermined time for reproduction as with content including moving image data or audio data or whose value changes depending on a content providing sequence, thereby presenting the content with user's content usage situation considered.

[0346]

If the virtual program guide generating apparatus 20 is used as the virtual content program guide generating apparatus, the program service providing apparatus 6 can be configured to handle the above-mentioned content instead of programs and the commissioning broadcast provider 3 can also be configured to create content, employing the same fee-charging

processing.

[0347]

The following describes a method of expenses collection to be employed in a remote program preset recording service based on mobile terminal apparatuses for executing a program preset recording setting operation from a location away from the terminal apparatus 2 in the program recording system 30 shown in FIG. 19.

[0348]

In order to remotely execute a program preset recording setting to the terminal apparatus 2 by use of a mobile terminal apparatus, the program service providing apparatus 6 configures a program preset recording system 40 with a program information providing apparatus 43, the terminal apparatus 2, a recording apparatus 45, and mobile terminal apparatuses 42a, 42b, and 42c as shown in FIG. 28.

[0349]

The mobile terminal apparatuses 42a, 42b, and 42c are PCs (Personal Computers) or PDAs (Personal Digital Assistants) for example having display sections 42a, 42b, and 42c which are each a LCD (Liquid Crystal Display) for example for displaying text information or image

information for example.

[0350]

The mobile terminal apparatus 42a stores, in its storage section not shown, a Web browser for obtaining program information for introducing television programs provided on the Internet by the program information providing apparatus 43. A controller, not shown, of the mobile terminal apparatus 42a searches a database 43a of the program information providing apparatus 43 for the program information by use of the Web browser on the Internet and displays the retrieved program information on the display section 52a.

[0351]

The mobile terminal apparatus 42b stores in its storage section not shown mailer software (hereinafter referred to as a mailer) for receiving electronic mail from the program information providing apparatus 43 and displaying the received electronic mail on the display section 52b. The mobile terminal apparatus 42b also stores in its storage section not shown a Web browser as the auxiliary software of the mailer. This Web browser starts when the user checks a URL (Uniform Resource Location) attached to electronic mail, displaying the program information on the display section 52b.

[0352]

The mobile terminal apparatus 42c stores in its storage section not shown the mailer software (hereinafter referred to as a mailer) for receiving electronic mail, receiving electronic mail from the program information providing apparatus 43 and displaying the received electronic mail on the display section 52c.

[0353]

The program information providing apparatus 43 has a database 43a storing program information, which is program attribute information, such as a program introductory comment summarizing the contents of each program and a program guide tabulating the program information about the programs organized into each channel and a database 43b storing a program preset recording setting script into an account set for each user. The storage section, not shown, of the program information providing apparatus 43 stores a Web server program which provides on the Internet the program information and program guides stored in the database 43a to the mobile terminal apparatuses 42a and 42b via their Web browsers.

[0354]

The storage section of the program information

providing apparatus 43 stores a mail server program which retrieves program introductory comments from the program information stored in the database 43a and periodically transmits the retrieved introductory comments attached to an electronic mail to the mobile terminal apparatuses 42b and 2c. The time of the transmission to the mobile terminal apparatuses 42b and 2c can be set by the user; for example, the user can transmit every three hours or at 6:00 every day. The electronic mail to be transmitted from the program information providing apparatus 43 is attached with a URL which includes the information for identifying a program the information for identifying a user who receives the electronic mail for each program introductory comment. This URL is linked with each piece of program information stored in the database 43a of the program information providing apparatus 43. The URL attached to the electronic mail will be detailed later.

[0355]

In addition, the program information providing apparatus 43 generates a program preset recording setting script, which is a control command based on the program information for controlling the recording apparatus 45 to record programs to a recording medium and transmits the generated program preset recording setting script to the

terminal apparatus 2.

[0356]

The terminal apparatus 2, which is a PC (Personal Computer) for example, incorporates a ground wave receiving tuner, a BS (Broadcasting Satellite) tuner, and a CS (Communications Satellite) tuner. Each of these tuners receives modulated programs transmitted by a carrier having a predetermined frequency and demodulates the received programs into programs consisting of video and audio signals. The terminal apparatus 2 has a recording section for recording the received programs to a recording medium pre-installed in the recording section or a recording medium which is detachably loaded into the recording section. The recording medium is a magnetic tape, a magnetic disk, a magneto-optical disk, or an optical disk, for example. The terminal apparatus 2 receives a program preset recording setting script sent from the program information providing apparatus 43. The controller of the terminal apparatus 2 converts the received program preset recording setting script into a preset recording control signal suitable for the processing by the recording section and controls the recording section in accordance with the converted preset recording control signal to record it to the recording

medium. At the same time, the terminal apparatus 2, when transmitting a program preset recording setting script to the recording apparatus 45 specified in the program preset recording setting script, converts the program preset recording setting script into a control signal suitable for each recording apparatus 45. For example, the terminal apparatus 2 converts the program preset recording setting script into an IR (Infra Red) signal, a LAN (Local Area Network) control signal, or an iLINK (trademark) control signal.

[0357]

The terminal apparatus 2 stores in its storage section not shown program preset recording setting scrip pickup software for retrieving a program preset recording setting script stored for each account of the terminal apparatus 2 in the database 43b of the program information providing apparatus 43. This program preset recording setting script pickup software starts when a session has been established between the terminal apparatus 2 and the program information providing apparatus 43 to search the account of the user of the database 43b for the program preset recording setting script and downloads the retrieved script.

[0358]

The recording apparatus 45 incorporates a ground wave receiving tuner, a BS tuner, and a CS tuner. Each tuner receives modulated programs transmitted on a carrier having a predetermined frequency and demodulates the received programs into programs consisting of video and audio signals. The recording apparatus 45 has a recording section for recording the received programs to a recording medium pre-installed in the recording section or a recording medium which is detachably loaded into the recording section. The recording medium is a magnetic tape, a magnetic disk, a magneto-optical disk, or an optical disk, for example. The recording apparatus 45 receives a preset recording control signal based on the program preset recording setting script received from the terminal apparatus 2. The recording apparatus 45 receives the preset recording control signal from the terminal apparatus 2 and records it to the recording medium in accordance with the received preset recording control signal. The recording apparatus 45 may have a plurality of recording devices such as a recording apparatus 45a, which is a DV (Digital Video), a recording apparatus 45b, which is a VTR (Video Tape Recorder), and a recording apparatus 45c, which is a DVD (Digital Video Disk), as shown in FIG. 28 for example.

[0359]

The following describes, with reference to the flowchart shown in FIGS. 29 and 30, an operation of the program preset recording setting in the direct access mode in which the mobile terminal apparatus 42a directly accesses the program information providing apparatus 43 in the program preset recording system 40 via the Internet.

[0360]

It should be noted that, in the direct access mode, the user must perform user registration before starting a program preset recording service with the program information providing apparatus 43. For example, the user must register in advance user's LoginName, Password, electronic mail address, postal address, telephone numbers (of the mobile terminal apparatus 2 and the terminal apparatus 2), the recording section of the terminal apparatus 2 and the recording apparatus 45 to which a program is to be recorded, credit card number for example for settling fee-charging, and user's profile such as name, age, gender, and occupation. The recording section of the terminal apparatus 2 and the recording apparatus 45 may be registered as a plurality of the recording sections of the terminal apparatus 2 and the

recording apparatuses 45. In order to register a plurality of the recording sections of the terminal apparatus 2 and the recording apparatuses 45, one of the mainly used recording sections of the terminal apparatus 2 or recording apparatuses 45 is registered as a default device.

[0361]

In step S201, in response to the input by the user, the controller, not shown, of the mobile terminal apparatus 42a accesses the program information providing apparatus 43 via the Internet by use of the Web browser stored in the storage section, not shown. In response, the program information providing apparatus 43 requests the user through the Web browser of the mobile terminal apparatus 2 for user's LoginName and Password.

[0362]

In step S202, when the user's LoginName and Password have been entered by the user through the Web browser of the mobile terminal apparatus 42a, the program information providing apparatus 43 determines whether to establish a session for transferring/receiving data between the mobile terminal apparatus 42a and the program information providing apparatus 43. If the LoginName and Password are found correct, then the procedure goes to

step S203; otherwise the procedure comes to an end.

[0363]

It should be noted that the inputting of the user's LoginName and Password may be omitted from the next usage of the service of the program preset recording system 40 by registering the user ID (identification) for example.

[0364]

In step S203, the controller, not shown, of the mobile terminal apparatus 42a downloads from the database 43a a program guide arranged with the program information of programs for each channel by use of the Web browser. The mobile terminal apparatus 42a displays the downloaded program guide on the display section 52a. FIG. 31 illustrates an exemplary program guide displayed on the display section 52a. The program guide in FIG. 31 is composed of 10 channels CH1 through CH10 allocated to 10 broadcast stations, indicating 3-hour program information from 20:00 to 22:00. In the program information box of each program, a time zone 20:00 to 21:00 of broadcast station "◎◎◎ General" allocated to CH1 for example contains a program called "×× Professional Wrestling" for example. It should be noted that "Preset" button attached to each program information will be detailed later.

[0365]

In step S204, the controller determines on the basis of the input by the user through the mobile terminal apparatus 42a whether to set the preset recording of a program listed in the program guide. To set the preset recording, the procedure goes to step S5; otherwise, the procedure comes to an end. For example, if the program guide illustrated in FIG. 31 is displayed on the display section 52a of the mobile terminal apparatus 42a and the program preset recording is to be set, then clicking "Preset" button attached to each program box of the program guide enters the program preset recording setting mode.

[0366]

In step S205, the controller, not shown, of the mobile terminal apparatus 42a displays, by use of the Web browser, a screen for confirming the program preset recording setting made in response to the input by the user in step S204. For example, if the user clicks "Preset" button of the program guide displayed on the display section 52a in step S4, the controller of the mobile terminal apparatus 42a displays a program preset recording setting confirmation screen for confirming the program preset recording setting as shown in FIG. 32 on

the display section 52a by use of the Web browser. This program preset recording setting confirmation screen shows that the name of the station "station" from which the program is broadcast is "○× TV," the date of broadcasting "year," "month," and "date" are "2000," "09" and "01," broadcast start time "start" is "21:00," broadcast end time "end" is "22:00," program title "program-title" is "World ○○ Soccer," program subtitle "program-subtitle" is "Japan Vs. Germany," infra-identification number "Infra" for identifying broadcasting means such as ground wave, CS, or BS is "3," and device identification number "device id" for identifying the recording apparatus 45 to which the program is recorded is "1" for example. The program preset recording setting confirmation screen also contains "Change Devices" button to be described later in step S206 for changing the devices to which the program is recorded and "Confirm Preset" button for executing the generation of a program preset recording setting script to be described in step S208.

[0367]

In step S206, in response to the input by the user at the mobile terminal apparatus 42a, the controller determines whether to change the recording section of the

terminal apparatus 2 or the recording apparatus 45 set as a default device before entering step S201 to another of the recording sections of the terminal apparatus 2 or the recording apparatuses 45. To change the recording sections of the terminal apparatus 2 or the recording apparatuses 45, the procedure goes to S207; otherwise, the procedure goes to step S208. It should be noted that, if there is only one recording apparatus 45 registered, this process can be skipped. For example, if the program preset recording setting information screen shown in FIG. 32 is displayed on the display section 52a of the mobile terminal apparatus 42a through the Web browser, clicking "Change Devices" button of a screen for confirming the program preset recording setting causes a device change screen shown in FIG. 33 to be displayed on the display section 52a of the mobile terminal apparatus 42a through the Web browser. The device change screen shown in FIG. 33 contains, for each device, "Device ID" indicative of the ID (identification) number of the recording section of the mobile terminal apparatus 2 or the recording apparatus 45 in the program preset recording system 40, "Device Type" indicative of the type of the recording section of the mobile terminal apparatus 2 or the recording apparatus 45, "Maker" indicative of the maker

of the recording section of the mobile terminal apparatus 2 or the recording apparatus 45, "Model" indicative of the model of the recording section of the mobile terminal apparatus 2 or the recording apparatus 45, and "Default" indicative of the recording section of the mobile terminal apparatus 2 or the recording apparatus 45 registered as the default device. As shown in the device change screen in FIG. 6, the recording section of the mobile terminal apparatus 2 or the recording apparatus 45 registered with the program preset recording system 40 are of three types: DV (Digital Video) having device ID of 1, VTR (Video Tape Recorder) having device ID of 2, and DVD (Digital Video Disc) having device ID of 3. Of these three devices, the recording apparatus 45 whose device ID is 1 is registered as the default device.

[0368]

In step S207, in response to the input by the user at the mobile terminal apparatus 2a, the controller changes the recording sections of the mobile terminal apparatus 2 or the recording apparatuses 45. For example, this device change is executed when the user clicks the default box of the recording section of the terminal apparatus 2 or the recording apparatus 45 to be newly set to default on the device change screen of FIG. 33 and

clicks "Yes" button in response to message "Do you want to register as default?" When the user clicks "Yes" button, the Web browser screen returns to the program preset recording setting confirmation screen shown in FIG. 32. When the recording section of the terminal apparatus 2 or the recording apparatus 45 has been set, an icon representative of the device thus set is displayed in the corresponding program box in the program guide as shown in FIG. 34. For example, an icon of DV is displayed in the program box of "World oo Soccer" as hatched in FIG. 34.

[0369]

In step S208, in response to the input by the user at the mobile terminal apparatus 42a, the controller determines whether to generate a program preset recording setting script. To generate the program preset recording setting script, the procedure goes to step S209; otherwise, the procedure returns to step S203. For example, to generate the script, when the user clicks "Confirm Preset" button in the program preset recording setting confirmation screen shown in FIG. 31, the information thereof is transmitted to the controller of the program information providing apparatus 43.

[0370]

In step S209, in response to the input by the user at the mobile terminal apparatus 42a, the controller of the program information providing apparatus 43 generates a program preset recording setting script. When the program preset recording setting script has been generated, its log is stored for each user into the database 43b of the program information providing apparatus 43.

[0371]

In step S210, the controller of the program information providing apparatus 43 stores the generated program preset recording setting script into the account of the corresponding user in the database server 3b.

[0372]

In step S211, when the program information providing apparatus 43 accesses the terminal apparatus 2, the procedure goes to step S212; when the terminal apparatus 2 accesses the program information providing apparatus 43, the procedure goes to step S213.

[0373]

In step S212, the controller of the program information providing apparatus 43 accesses the terminal apparatus 2 to establish a session for data transfer. When the program preset recording setting script has been

stored in the account of the user in the database 43b in step S209, the controller of the program information providing apparatus 43 immediately accesses the terminal apparatus 2. When step S212 has been completed, the procedure goes to step S214.

[0374]

In step S213, the controller of the terminal apparatus 2 accesses the program information providing apparatus 43 to establish a session for data transfer. The controller of the terminal apparatus 2 periodically accesses the program information providing apparatus 43; for example, several times a day as specified by the user. When step S213 has been completed, the procedure goes to step S214.

[0375]

In step S214, when the session between the program information providing apparatus 43 and the terminal apparatus 2 has been established, the program preset recording setting script pickup software stored in the recording section of the terminal apparatus 2, which is a software program to acquire the program preset recording setting script, starts.

[0376]

The started program preset recording setting script

pickup software accesses the program information providing apparatus 43 in order to download the program preset recording setting script stored in the database 43b of the program information providing apparatus 43. The controller of the program information providing apparatus 3 authenticates whether the accessing program preset recording setting script pickup software is that of the authorized user. This authentication of the program preset recording setting script pickup software is executed by use of the user ID or user Login ID and Password.

[0377]

It should be noted that, when installing the program preset recording setting script pickup software in the terminal apparatus 2, the user must register his or her ID or user Login ID and Password and stores them into a storage section, not shown, of the program information providing apparatus 43.

[0378]

In response to the access by the program preset recording setting script pickup software, the controller of the program information providing apparatus 43 determines whether this software is of the authorized user of the account in the database 43b by use of the

user ID or the user Login ID and Password stored in the above-mentioned storage section. If the software is of the authorized user, the procedure goes to step S215; otherwise, the procedure comes to an end.

[0379]

In step S215, the controller of the terminal apparatus 2 downloads the program preset recording setting script from the database 43b of the program information providing apparatus 43 by use of the program preset recording setting script pickup software stored in the storage section, not shown. At the same time, when the program preset recording setting script has been downloaded by the program preset recording setting script pickup software of the terminal apparatus 2, the controller of the program information providing apparatus 43 generates a message notifying thereof by setting a program guide account which can be accessed by the Web browser.

[0380]

In step S216, the controller of the terminal apparatus 2 retrieves the program preset recording setting script by use of the program preset recording setting script pickup software stored in the storage section and determines whether the device for recording

the program described in the program preset recording setting script is the recording section of the terminal apparatus 2 or the recording apparatus 45. If the device is the recording section of the terminal apparatus 2, then the controller of the terminal apparatus 2 converts the program preset recording setting script into a preset recording control signal suitable for processing by the recording section. If the device is the recording apparatus 45, then the controller converts the program preset recording setting script into a signal suitable for processing by the recording apparatus 45 and then transmits the signal to the recording apparatus 45. The recording apparatus 45 receives the preset recording control signal from the terminal apparatus 2 and performs the preset recording of the program as specified by the control signal.

[0381]

The following describes an operation of canceling the program preset recording setting made on the basis of the program preset recording setting script generated in the direct access mode described above with reference to the flowcharts of FIGS. 29 and 30.

[0382]

In order to cancel the setting of program preset

recording, the user first clicks "Cancel" button, not shown, in the program guide displayed on the display section 52a of the mobile terminal apparatus 42a by use of the Web browser. When "Cancel" button is clicked, the controller of the program information providing apparatus 3 retrieves, from the program preset recording log of each user stored in the database 43b, the user's program preset recording log for which the recording has not been executed on the recording section of the terminal apparatus 2 or the recording apparatus 45 and displays the retrieved log on the display section 52a of the mobile terminal apparatus 42a. FIG. 35 illustrates an exemplary program preset recording log. As shown in FIG. 35, the program preset recording log is displayed in which the channels on which preset programs are broadcast are shown under "Channel," such as CH1 for example. Program recording start times are shown under "Recording Start Time" such as "2000/09/01 22:30:00" for example, which is September first, 2000, 22:30:00. Program names are shown under "Title" such as "Cute Angel Kent" for example. In FIG. 35, four programs are preset for recording, which are "Cute Angel Kent," "○○ News," "○○ Science," and "World ○○ Soccer."

[0383]

When the program preset recording log is displayed on the display section 52a of the mobile terminal apparatus 42a, the user selects the program of which preset recording is to be canceled from the program preset recording log and clicks "Delete" button on the screen shown on the display section 52a. When the "Delete" button is clicked, the controller of the program information providing apparatus 43 generates a cancel script for invalidating the preset recording of the selected program. The generated cancel script is transmitted from the program information providing apparatus 43 to the terminal apparatus 2 in which the cancel script is converted into a control signal suitable for processing by the recording section of the terminal apparatus 2 or the recording apparatus 45, the control signal being transmitted thereto. In response to the received control signal, the recording section of the terminal apparatus 2 or the recording apparatus 45 cancels the setting of preset recording of the program. When the preset recording setting is canceled, the corresponding program preset recording log is deleted and is registered as a cancel log with the account of the user in the database 43b of the program information providing apparatus 43.

[0384]

The following describes, with reference to the flowcharts shown in FIGS. 36, 29, and 30, an operation of program preset recording setting in a first mail access mode in which the program information providing apparatus 43 periodically transmits electronic mail attached with URL to the mobile terminal apparatus 42b to perform program preset recording setting by use of the Web browser of the mobile terminal apparatus 42b in the program preset recording system 40.

[0385]

In step S221, the controller of the program information providing apparatus 43 transmits, to the mobile terminal apparatus 42b, an electronic mail message attached with a program introductory comment of the program and a URL (Uniform Resource Location) for identifying user, program channel, broadcast start time and broadcast end time for each program introductory comment. FIG. 37 illustrates an exemplary electronic mail message transmitted from the program information providing apparatus 43 to the mobile terminal apparatus 42b. A program introductory comment summarizes the contents of a program and is placed in "Program Introductory Comment" box hatched in FIG. 37. It should

be noted that no specific program introductory comment is shown. This electronic mail message is also attached with URL "http://www.◎◎.com/MyMail/RecordSet/1234_5_20000901210000020000901220000.html." This URL indicates the location of a directory in which the corresponding program information of the database 43a of the program information providing apparatus 43 is stored and, at the same time, indicates user identification and capabilities which can be executed by accessing this URL. "RecordSet" in the URL shown in FIG. 37 indicates that this URL is for setting program preset recording, "1234" indicates an user identifier for identifying the user of this program preset recording system 40, following "5" indicates the channel number of the program, "20000901210000" indicates the program start date and time, September 1, 2000, 21:00, and "20000901220000" indicates the program end date and time, September 1, 2000, 22:00.

[0386]

In step S222, in response to the input by the user at the mobile terminal apparatus 42b, the controller determines whether to access the URL attached to the received electronic mail. To access the URL, the procedure goes to step S223; otherwise, the procedure

comes to an end. For example, if the electronic mail as shown in FIG. 37 is transmitted from the program information providing apparatus 43 to the mobile terminal apparatus 42b, the user clicks the attached URL such as "http://www.◎◎.com/MyMail/RecordSet/1234_5_2000090121000020000901220000.html" to access thereto.

[0387]

In step S223, the controller of the mobile terminal apparatus 42b searches the database 43a of the program information providing apparatus 43 for the program information of the corresponding program by use of the Web browser and displays the retrieved program information on the display section 52b. When step S223 is completed, the procedure goes to steps S204 through S216 shown in FIGS. 29 and 30.

[0388]

The processes of steps S204 through S216 are the same as described with the direct access mode. By following the processes of steps S204 through S216, a program preset recording setting script is generated to set the preset recording of a corresponding program to the terminal apparatus 2 or the recording apparatus 45 in the first mail access mode.

[0389]

The following describes an operation of canceling the program preset recording setting made on the basis of the program preset recording setting script generated in the first mail access mode described with reference to the flowcharts of FIGS. 36, 29, and 30.

[0390]

If at least one program has been set for preset recording, an electronic mail message to be transmitted from the program information providing apparatus 43 to the mobile terminal apparatus 42b in step S221 shown in FIG. 36 is attached with a cancel URL as shown in FIG. 38 for example, like "http://www.◎◎.com/myPage/Cancel/1234.html." This cancel URL identifies the user and indicates capabilities to be executed when accessed. "Cancel" in the cancel URL shown in FIG. 37 indicates that this URL functions to cancel the setting of program preset recording and "1234" indicates a user identifier for identifying the user using the program preset recording system 40. To cancel the setting of program preset recording, the user clicks, at the terminal apparatus 2b, the cancel URL attached to the electronic mail. When the cancel URL is clicked, the controller of the program information providing apparatus 43 retrieves a program preset recording log in which the

recording to the recording section of the terminal apparatus 2 or the recording apparatus 45 has not yet been performed from among the program preset recording logs of users stored in the database 43b and passes the cancel URL to the mobile terminal apparatus 42b. In response, the controller of the mobile terminal apparatus 42b starts the Web browser and displays the retrieved program preset recording log on the display section 52b. For example, the controller of the mobile terminal apparatus 42b displays through the Web browser the log of programs set for preset recording as shown in FIG. 35 on the display section 52b of the mobile terminal apparatus 42b. Checking the program log screen shown on the display section 52b, the user selects a program to be canceled of the setting of preset recording. To cancel the setting of preset recording, the user clicks "Delete" button as shown in FIG. 35 for example after the selection. The subsequent cancel operation in the first mail access mode is generally the same as that in the direct access mode.

[0391]

The following describes, with reference to the flowcharts shown in FIGS. 39, 29, and 30, an operation of program preset recording setting to be executed in a second mail access mode in which an electronic mail

message attached with a URL is periodically transmitted from the program information providing apparatus 43 to the mobile terminal apparatus 42c and mobile terminal apparatus 42c accesses the URL attached to the received electronic mail message to perform program preset recording setting in the program preset recording system 40.

[0392]

In step S231, the controller of the program information providing apparatus 43 transmits, to the mobile terminal apparatus 42c, an electronic mail message attached with a program introductory comment of the program and a URL for identifying user, program channel, broadcast start time and broadcast end time for each program introductory comment. FIG. 40 illustrates an exemplary electronic mail message transmitted from the program information providing apparatus 43 to the mobile terminal apparatus 42c. A program introductory comment summarizes the contents of a program and is placed in "Program Introductory Comment" box hatched in FIG. 40. It should be noted that no specific program introductory comment is shown.

[0393]

This electronic mail message is also attached with

URL "http://◎◎.com/MyMail/RecordSet/1234_5_2000090121000
020000901220000.rev." This URL indicates user identification and capabilities which can be executed by accessing this URL. "RecordSet" in the URL shown in FIG. 40 indicates that this URL is for setting program preset recording, "1234" indicates an user identifier for identifying the user of this program preset recording system 40, following "5" indicates the channel number of the program, "20000901210000" indicates the program start date and time, September 1, 2000, 21:00, and "20000901220000" indicates the program end date and time, September 1, 2000, 22:00.

[0394]

In addition, the electronic mail message shown in FIG. 40 is attached with a recording device change mode URL for entering a mode in which the default recording section of the terminal apparatus 24 or the default recording apparatus 45 is changed to another registered recording section of the terminal apparatus 2 or another registered recording apparatus 45, the URL being "http://www.◎◎.com/MyMail/ChangeDev/1234.rev" for example. It should be noted that, if there is only one registered recording section of the terminal apparatus 2 or only one registered recording apparatus 45, this

recording device setting change mode URL is not attached to electronic mail.

[0395]

In step S232, in response to the input by the user at the mobile terminal apparatus 42c, the controller determines whether to change the default recording section of the terminal device 2 or the default recording apparatus 45 to another registered recording section of the terminal apparatus 2 or the another registered recording apparatus 45. To change the devices, the procedure goes to step S233; otherwise, the procedure goes to step S34.

[0396]

For example, to change the default recording section of the terminal apparatus 2 or the default recording apparatus 45, the user clicks the recording device change mode URL "http://www.◎◎.com/MyMail/Change Dev/1234.rev" attached to the program introductory electronic mail shown in FIG. 40, upon which the recording device change mode is entered. In the recording device change mode, the controller of the program information providing apparatus 43 transmits to the mobile terminal apparatus 42c a recording device change program selection electronic mail message shown in FIG.

41 attached with a program preset recording log and recording device selection URLs for changing the recording section of the terminal apparatus 2 or the recording apparatus 45 for each program listed in the program preset recording log. As shown in FIG. 41, the recording device change program selection electronic mail is attached with a recording device selection mode URL for each of the programs set for preset recording.

[0397]

As shown in FIG. 41, the program preset recording log is displayed in which the channels on which preset programs are broadcast are shown under "Channel," such as CH3, for example. Program recording start times are shown under "Recording Start Time" such as "2000/09/01 22:30:00" for example, which is September first, 2000, 22:30:00. Program recording end times are shown under "Recording End Time" such as "2000/09/01 23:00:00 for example, which is September first, 2000, 23:00:00. Program names are shown under "Title" such as "Cute Angel Kent" for example. URL "http://www.◎◎.com/MyMail/DevChange/DevChange_1234_3_20000901223000200009012300 00.rev" for example is attached to each program. The recording device selection mode URL provides user identification and indicates capabilities which can be executed by

accessing this URL. "DevChange" in the URL shown in FIG. 41 indicates that this URL is for setting program preset recording, "1234" is a user identifier for identifying the user using this program preset recording system 40, "3" indicates channel number, "20000901223000" indicates program start date and time, which is September first, 2000, 22:30, and "20000901230000" indicates program end date and time, which is September first, 2000, 23:00.

[0398]

In step S233, in response to the input by the user at the mobile terminal apparatus 2c, the controller changes the recording section of the terminal apparatus 2 or the recording apparatus 45 to another device. This change is executed when the user clicks the recording device selection mode URL attached to each of the programs set for preset recording in the recording device change program selection electronic mail shown in FIG. 41, upon which the recording device section mode in which the user can select a registered recording device is entered. For example, when the user clicks the recording device selection mode URL attached to a program of which title is "World oo Soccer," the controller of the program information providing apparatus 43 transmits, to the mobile terminal apparatus 42c, a recording device

selection electronic mail message attached with a recording device setting URL for selecting the specified device from the registered recording sections of the terminal apparatus 2 or the registered recording apparatuses 45 and setting the selected device.

[0399]

Receiving the recording device selection electronic mail, the controller of the mobile terminal apparatus 42c causes the mailer software stored in the storage section to display the recording device selection electronic mail shown in FIG. 42 for example on the display section 52c. As shown in FIG. 42, in the recording device selection electronic mail, the program information of each program for which device change is to be made shows "Channel" as "CH5" for example, "Recording Start Time" as "2000/09/01 21:00:00" for example, "Recording End Time" as "2000/09/01 22:00:00" for example, and "Title" as "World oo Soccer" for example. In addition, the controller displays all recording device setting URLs for the recording sections of the terminal apparatus 2 and the recording apparatuses 45 registered with the program preset recording system 40. One of the recording device setting URLs is displayed as "http://www.◎◎.com/MyMail/DevID/DevID_1234_15_20000901210000200009012200 00.rev" for

example in the case of the digital video shown in FIG. 41. "1234" of the recording device setting URL for the digital video shown in FIG. 42 is a user identifier for identifying the user using this program preset recording system 40, "1" of "15" indicates device ID while "5" indicates channel number, "20000901210000" indicates program start date and time, which is September first, 2000, 21:00, and "20000901220000" indicates program end date and time, which is September first 2000, 22:00. In addition to the digital video, FIG. 42 shows VTR and DVD of which device IDs are "2" and "3" respectively, as the recording section of the terminal apparatus 2 and the recording apparatus 45 registered with the program preset recording system 40.

[0400]

When the recording device selection electronic mail is displayed on the display section 52c of the mobile terminal apparatus 42c, the user selects a desired recording device setting URL at the mobile terminal apparatus 42c. When the desired URL is selected and the information thereof is transmitted to the program information providing apparatus 43, the controller of the program information providing apparatus 43 selects the default recording section of the terminal apparatus 2 and

the default recording apparatus 45 as the newly selected recording section of the terminal apparatus 2 and the newly selected recording apparatus 45 and modifies the program preset recording setting script accordingly.

[0401]

When the modified program preset recording setting script is transmitted, the terminal apparatus 2 sets the recording section of the terminal apparatus 2 and the recording apparatus 45 as default devices in accordion with the modified program preset recording setting script. When step S233 has been completed, the procedure goes to step S234.

[0402]

In step S234, in response to the input by the user at the mobile terminal apparatus 42c, the controller determines whether to access the program preset recording setting URL attached to the program introductory electronic mail. To access this URL, the procedure goes to step S233; otherwise, the procedure comes to an end.

[0403]

In step S235, in response to the access to the program preset recording setting URL attached to the program introductory electronic mail, the controller of the program information providing apparatus 43 searches

the program information stored in the database 43a for a corresponding program. When step S235 has been completed, the procedure goes to steps S209 through S216 shown in FIGS. 29 and 30.

[0404]

The processes of steps S209 through S216 are generally the same as those in the direct access mode. By following the above-mentioned processing, a program preset recording setting script is generated and the setting of program preset recording can be made to the terminal apparatus 2 or the recording apparatus 45 in the second mail access mode.

[0405]

The following describes an operation for canceling the setting of program preset recording made on the basis of the program preset recording setting script generated in the first mail access mode described with reference to the flowcharts shown in FIGS. 39, 29, and 30.

[0406]

If at least one program has been set for preset recording, an electronic mail message to be transmitted from the program information providing apparatus 43 to the mobile terminal apparatus 42c in step S231 is attached with a cancel URL as shown in FIG. 43 for

example, like "http://www.◎◎.com/MyMail/Cancel/1234.html." This cancel URL identifies the user and indicates capabilities to be executed when accessed.

[0407]

"Cancel" in the cancel URL shown in FIG. 43 indicates that this URL functions to cancel the setting of program preset recording and "1234" indicates a user identifier for identifying the user using the program preset recording system 40. To cancel the setting of program preset recording, the user clicks, at the terminal apparatus 2c, the cancel URL attached to the electronic mail. When the cancel URL is clicked, the controller of the program information providing apparatus 43 retrieves a program preset recording log in which the recording to the recording section of the terminal apparatus 2 or the recording apparatus 45 has not yet been performed from among the program preset recording logs of users stored in the database 43b, generates a program preset recording setting cancel electronic mail message attached with the cancel URL, and transmits this mail message to the mobile terminal apparatus 42c. In response, the controller of the mobile terminal apparatus 42b causes the mailer software stored in the storage section to display this electronic mail message on the

display section 52b. For example, the controller of the mobile terminal apparatus 42c displays the program preset recording setting cancel electronic mail as shown in FIG. 44 on the display section 52c. In the program information of each program set for preset recording in this electronic mail message, "Channel" is shown as "CH3" for example, "Recording Start Time" as "2000/09/01/22:30:00" for example, "Recording End Time" as "2000/09/01/23:00" for example, and "Title" as "Cute Angel Kent" for example. The program preset recording setting cancel URL is shown as "http://www.◎◎.com/MyMail/Cancel/cancel_1234_3_20000901223000020000901230000.rev" for example. This cancel URL identifies the user and indicates capabilities to be executed when accessed. "Cancel" in this URL shown in FIG. 44 indicates that this URL is for canceling the setting of program preset recording, "1234" is a user identifier for identifying the user using this program preset recording system 40, "3" indicates channel number, "20000901223000" indicates program start date and time, which is September first, 2000, 22:30, and "20000901230000" indicates program end date and time, which is September first, 2000, 23:00.

[0408]

When the user selects a program of which setting

for preset recording is to be canceled from among the programs set for preset recording in the screen shown on the display section 52c of the mobile terminal apparatus 42c and clicks the selected program, the information thereof is transmitted to the program information providing apparatus 43. In response, the controller of the program information providing apparatus 43 generates a cancel script for canceling the setting of preset recording of the selected program. The generated cancel script is transmitted from the program information providing apparatus 43 to the terminal apparatus 2 to be converted into a control signal suitable for the processing by the recording section of the terminal apparatus 2 or the recording apparatus 45, the control signal being transmitted thereto. In accordance with the received control signal, the recording section of the terminal apparatus 2 or the recording apparatus 45 cancels the setting of the preset recording of the selected program. When the preset recording has been canceled, the corresponding program preset recording log is deleted to be registered, as a cancel log, with the account of the corresponding user in the database 43b of the program information providing apparatus 43.

[0409]

In addition to the generation of a cancel script, the controller of the program information providing apparatus 43 transmits an execution confirmation electronic mail message telling that the program preset recording setting has been canceled to mobile terminal apparatus 42c. The controller of the mobile terminal apparatus 42c displays the received cancel execution confirmation electronic mail on the display section 52c as shown in FIG. 45 for example. As shown in FIG. 45, this electronic mail shows "Channel," "Recording Start Time," "Recording End Time," and "Title" for example of the program of which setting for preset recording has been canceled.

[0410]

Thus, in the program preset recording system 40, the program guide stored in the database 43a of the program information providing apparatus 43 is presented to the user at the display section 52a of the mobile terminal apparatus 42a through the Web browser, a request for setting the preset recording of a user-specified program is inputted by the user at the mobile terminal apparatus, and a program preset recording setting script is generated by the program information providing apparatus 43, thereby setting the preset recording of the

specified program to the recording section of the terminal apparatus 2 or the recording apparatus 45.

[0411]

Further, in the program preset recording system 40, an electronic mail message attached with the program information stored in the database 43a of the program information providing apparatus 43 and a URL linked with this program information is transmitted to the mobile terminal apparatuses 42b and 42c and, in response to the access to this URL by the users of the mobile terminal apparatuses 42b and 42c, a program preset recording setting script is generated by the program information providing apparatus 43, thereby setting the preset recording of a specified program to the recording section of the terminal apparatus 2 or the recording apparatus 45.

[0412]

It should be noted that, in the above-mentioned direct access mode and first and second mail access modes, the program information providing apparatus 43 can use CGI (Common Gateway Interface) to transfer/receive information on an http basis, thereby performing program preset recording setting.

[0413]

CGI denotes, in a server-client type network, an

interface which starts, upon request from a client, a program corresponding to a request from a WWW (World Wide Web) server and returns the results obtained by this program to the client. A program started in a WWW server is referred to as a CGI script.

[0414]

The program for generating a program preset recording setting script or a cancel script in each of the direct access mode and first and second mail access modes corresponds to this CGI script. The CGI script is stored in the storage section, not shown, of the program information providing apparatus 43. In the direct access mode, the program starts when accessed from the program guide. In the first and second mail access modes, the program starts when the user clicks the URL attached to the electronic mail to be transmitted to the mobile terminal apparatus 42b or 42c.

[0415]

The following describes a URL for starting a CGI script to be attached to an electronic mail message to be transmitted to the mobile terminal apparatus 42b in the first mail access mode using the mobile terminal apparatus 42b. As described in step S221, the controller of the program information providing apparatus 43

transmits, to the mobile terminal apparatus 42b, an electronic mail message attached with a program introductory comment of the program and a URL for identifying program channel, broadcast start time and broadcast end time for each program introductory comment, via the Internet. Instead of "http://www.◎◎.com/MyMail/RecordSet/1234_5_20000901210000020000901220000.html," this URL is "http://www.◎◎.com/MyMail/Record.cgi?userID=1234&InfraID=1&StationID=3&start=20000901210000&end=20000901220000" for example.

[0416]

The above-mentioned URL is an address indicative of the location of the CGI on the Web server, the values after each "?" in the URL is an argument for starting the script.

[0417]

For example, the arguments in the above-mentioned URL are shown as "userID=1234" for identifying the user of the program preset recording system 40, "InfraID=1" for identifying ground wave broadcasting from CS "2" or BS "3", "StationID=3" for identifying a channel number corresponding to the frequency allocated to the broadcast station from which the program concerned is broadcast, "start=20000901210000" for indicating the program start

date and time, which is September first, 2000, 21:00, and "end=20000901220000" for indicating the program end date and time, which is September first, 2000, 22:00. Each argument is concatenated with another with symbol "&".

[0418]

The following describes operations of accessing the above-mentioned URL, generating a program preset recording setting script, and executing program preset recording setting.

[0419]

First, when the user clicks the URL at the mobile terminal apparatus 42b, a script generating command for generating a program preset recording setting script and the program information such as program broadcasting station, broadcasting means, and broadcast start and end times to the program information providing apparatus 43 to be stored in the database 43b for each user account.

[0420]

The terminal apparatus 2 periodically operates on a time-managing timer and a power control capability, establishing an Internet session with the program information providing apparatus 43.

[0421]

When an Internet session is established between the

program information providing apparatus 43 and the terminal apparatus 2, the program preset recording setting script pickup software stored in the storage section, not shown, of the terminal apparatus 2 accesses the program information providing apparatus 43 by use of the authentication information such as user login ID and password, thereby authenticating the user for using a program preset recording setting script generating CGI script stored in the storage section of the program information providing apparatus 43. When the user authentication has been completed, the program preset recording setting script generating CGI script generates a program preset recording setting script from the script generating command and program information stored in the database 43b for each user account and transmits the generated program preset recording setting script to the terminal apparatus 2. Receiving the program preset recording setting script, the terminal apparatus 2 stores the program preset recording setting script in its storage section or the recording apparatus 45 to perform a program preset recording setting operation.

[0422]

When the program has been set for preset recording by the program preset recording setting script, the

program information providing apparatus 43 notifies the mobile terminal apparatus 42b of the success or failure of the setting.

[0423]

First, after the program has been set for preset recording by the program preset recording setting script, the terminal apparatus 2 accesses the program information providing apparatus 43 by use of the authentication information to authenticate the user who uses a program preset recording setting result report CGI script for notifying the mobile terminal apparatus 42b of the completion of the program preset recording setting stored in the storage section (not shown) of the program information providing apparatus 43. When the user authentication has been completed, the program preset recording setting result report CGI script generates an electronic mail message for notifying the result of the program preset recording setting by using the program information as argument and transmits the generated electronic mail message to the mobile terminal apparatus 42b.

[0424]

Further, the terminal apparatus 2 transmits the program information of the program set for preset

recording to the recording section of the terminal apparatus 2 or the recording apparatus 45 to the program information providing apparatus 43, thereby causing the program information providing apparatus 43 to generate a log of the program set for preset recording.

[0425]

First, the terminal apparatus 2 accesses the program information providing apparatus 43 by use of the authentication information to authenticate the user for using the program preset recording log generating CGI script for generating a log of the program set for preset recording stored in the storage section of the program information providing apparatus 43. After the user authentication has been completed, the program preset recording log generating CGI script generates a program preset recording log of the program set for preset recording by use of the program information of the program set for preset recording as argument. The generated program preset recording log is transmitted to the terminal apparatus 2 to be stored in its storage section.

[0426]

In addition, the terminal apparatus 2 transmits the program information of the program recorded to a

recording medium by the recording section of the terminal apparatus 2 or the recording apparatus 45 to the program information providing apparatus 43, thereby causing the program information providing apparatus 43 to generate a log of the program which has been recorded to the recording medium.

[0427]

First, the terminal apparatus 2 accesses the program information providing apparatus 43 by use of authentication information to authenticate the user for using a program recording completion log generating CGI script for generating a log of the program set for preset recording and recorded to the recording medium in the storage section (not shown) of the program information providing apparatus 43. After the user authentication has been completed, the program recording completion log generating CGI script generates a program recording completion log by use of the program information of the program recorded to the recording medium as argument. The generated program recording completion log is transmitted to the terminal apparatus 2 to be stored in its storage section (not shown).

[0428]

By executing communication by use of CGI on an http

or htpps basis in the program information providing apparatus 43 as described above, a device change operation may also be made on the default recording section of the terminal apparatus 2 or the recording apparatus 45 in generally the same manner as above.

[0429]

Moreover, the process of generating the above-mentioned program preset recording setting script applies when generating a cancel script. Namely, the user clicks the URL attached to an electronic mail message transmitted to the mobile terminal apparatus 42b to access the cancel CGI script stored in the storage section of the program information providing apparatus 43, thereby generating a cancel script for canceling the setting of preset recording of the program set to the recording section of the terminal apparatus 2 or the recording apparatus 45.

[0430]

In the direct access mode using the mobile terminal apparatus 42a and the second mail access mode using the mobile terminal apparatus 42c, use of CGI allows to perform all operations mentioned above, such as the program preset recording setting by a program preset recording setting script, the cancellation of program

preset recording setting by a cancel script, and the device change on default devices.

[0431]

Thus, the communication between the program information providing apparatus 43 and the terminal apparatus 2 between which an Internet session has been established by use of http or https, which is a communication protocol obtained by adding a security capability to http and each kind of CGI script stored in the storage section of the program information providing apparatus 43 is used, thereby enhancing the user-friendliness in the setting of program preset recording in the program preset recording system 40 and enhancing the security against the information leakage which may be caused by information transaction.

[0432]

The use of https as a communication protocol for the communication which involves personal information transfer between the mobile terminal apparatuses 42a, 42b, and 42c, the program information providing apparatus 43, and the terminal apparatus 2 between which an Internet session has been established enhances the security, thereby preventing the leakage of personal information.

[0433]

The following describes a program preset recording system 100 obtained by adapting the program preset recording system 40 more to actual services with reference to FIG. 46.

[0434]

The program preset recording system 100 includes a mobile terminal apparatus 110, a server apparatus 120, and a terminal apparatus 2.

[0435]

The mobile terminal apparatus 110 is a portable wireless telephone device having a display section 110a, which is a LCD (Liquid Crystal Display) for example, capable of displaying text information and image information. The mobile terminal apparatus 110 also has, in its storage section not shown, mailer software for transferring/receiving electronic mail and browser software for downloading HTML data from a WWW server 122 of the server apparatus 120 and displaying the downloaded HTML data on the display section 110a of the mobile terminal apparatus 110.

[0436]

The server apparatus 120 has a mail server 121, the WWW server 122, and a database server 123 and provides the source of service provision in the program preset

recording system 100, performing the information management for the users who use the program preset recording system 100 and generating program preset recording setting scripts, which are control commands for executing a program preset recording setting operation at the terminal apparatus 2.

[0437]

The electronic mail to be generated by the mail server 121 and transmitted to the mobile terminal apparatus 110 is of two kinds; visit mail and operation result mail.

[0438]

The visit mail is generated at a predetermined time attached with a URL for accessing the WWW server 122 of the server apparatus 120 and is transmitted to the mobile terminal apparatus 110. When the user accesses the URL attached to the visit mail at the mobile terminal apparatus 110, a session is established with the server apparatus 120 to be ready for receiving various services from the server apparatus 120.

[0439]

On the other hand, the operation result mail carries the results of the execution of a command by the server apparatus 120 in response to the command inputted

by the user at the mobile terminal apparatus 110.

[0440]

The WWW server 122 has a plurality of CGI (Common Gateway Interface) scripts for executing programs for predetermined operations in accordance with the arguments written in a URL. For example, the CGI scripts generate a program guide on demand from the mobile terminal apparatus 110 or the terminal apparatus 2 in accordance with the arguments written in a URL to send the generated program guide via the Internet and generate a program preset recording setting script, which is a control command for setting a program preset recording operation, for example.

[0441]

The database server 123 has and manages a database 123a which stores the user information of users of the program preset recording system 100, the program information of programs which can be set for preset recording in the program preset recording system 100, and all other data associated with this system.

[0442]

The database 123a consists of a plurality of databases which store all data associated with the program preset recording system 100 as classified by type.

The following describes examples of these databases contained in the database 123a managed by the database server 123 (hereinafter, a database is also referred to as a DB).

[0443]

The database 123a contains a user information DB storing such personal information of users of the program preset recording system 100 as user IDs and passwords for example, a program DB storing the program information of programs which can be set for preset recording in the program preset recording system 100, a preset recording DB storing the information of programs set by the user for preset recording, an access log DB storing the logs of access to the server apparatus 120 by the terminal apparatus 2, an operation DB storing operation scripts, and a polling DB storing the logs of times at which access was periodically made to the server apparatus 120 by the access software of the mobile terminal apparatus 110.

[0444]

The terminal apparatus 2 is a PC (Personal Computer) having a ground wave tuner, not shown, for receiving ground wave television signals transmitted from a television station, not shown, a recording medium such

as HDD (Hard Disk Drive), and a recording section, not shown for recording the received television signals to the recording medium 131.

[0445]

The terminal apparatus 2 has a display section, not shown, for displaying programs broadcast from a television station, allowing the user to view desired programs.

[0446]

A storage section 132 of the terminal apparatus 2 stores access software which periodically accesses the server apparatus 120 to download a program preset recording setting script generated by the WWW server 122 and converts the downloaded program preset recording setting script into a control signal suitable for the processing by the above-mentioned recording section.

[0447]

A controller 133 of the terminal apparatus 2 automatically records a program received by the ground wave tuner to the recording medium in accordance with the control signal obtained from the program preset recording setting script by the above-mentioned access software.

[0448]

The following describes a processing operation to

be executed when performing program preset recording in the program preset recording system 100 with reference to the flowchart shown in FIG. 47.

[0449]

The mail server 121 of the server apparatus 120 starts at a predetermined time (step S301), checks a visit mail transmission time (step S302), searches the addresses of registered users of the program preset recording system 100 stored in the database 123a for the mail address of a predetermined user (step S303), generates a visit mail message attached with a URL for accessing the server apparatus 120, and sends the generated visit mail message (step S304).

[0450]

The mobile terminal apparatus 110 receives the visit mail message from the mail server 121 and causes mailer software stored in its storage section, not shown, to display the visit mail message on the display section 110a.

[0451]

At this moment, the visit mail message as shown in FIG. 48 is displayed on the display section 110a of the mobile terminal apparatus 110. The URL attached to the visit mail message is

"https://www.rompass.com/imode/remote/index.html?LoginID=1234567" for example, user "LoginID" as an argument being written as "1234567" in advance. Consequently, when the server apparatus 120 is accessed by the user from the mobile terminal apparatus 110 via this URL, the server apparatus 120 can identify which user has made this access request.

[0452]

When the user accesses the URL attached to the visit mail message at the mobile terminal apparatus 110, the controller, not shown, of the mobile terminal apparatus 110 instantly starts browser software stored in its storage section. This browser software accesses the WWW server 122 of the server apparatus 120 to request for the transfer of HTML information written in the URL.

[0453]

In response, as shown in the flowchart of FIG. 49, the WWW server 121 of the server apparatus 120 determines whether the accessing browser software is the predetermined browser software of the mobile terminal apparatus 110 of which is use is allowed in the program preset recording system 100 (step S305). If the browser software is found not the authorized browser software, the WWW server 121 sends an error message to the mobile

terminal apparatus 110 (step S306). If the browser software is found the authorized browser software, then the WWW server 122 issues an authentication menu screen written in HTML for prompting the input of user password and transmits the menu screen to the mobile terminal apparatus 110 (step S307).

[0454]

The browser software of the mobile terminal apparatus 110 receives the HTML information from the WWW server 122, analyzes the received HTML information, and displays a resultant authentication menu screen as shown in FIG. 50 for example on the display section 110a.

[0455]

The authentication menu screen has a password input box and "Send" button for transmitting the inputted password. This "Send" button corresponds to the URL of the WWW server 122. The password inputted in the password box becomes the argument of this URL. For example, the URL linked with "Send" button is expressed as "https://www.rompass.com/imode/remote/imodeCheckPassword.cgi?LoginID=**&PW=**" for example, "LoginID=" being followed by the login ID of the user and "PW=" being followed by the password of the user.

[0456]

When the user clicks "Send" button to access this URL, the browser software of the mobile terminal apparatus 110 accesses the WWW server 122 of the server apparatus 120, thereby requesting the transfer of the HTML written in the URL.

[0457]

In response, as shown in the flowchart of FIG. 51, the WWW server 122 of the server apparatus 120 obtains the argument written in the URL (step S311) to determine whether the accessing browser software is the predetermined browser software of the program preset recording system 100 of which use is allowed in the program preset recording system 100 (step S312). If the browser software is found not the authorized browser software, the WWW server 122 sends an error message to the mobile terminal apparatus 110 (step S313). If the browser software is found the authorized browser software, then the WWW server 122 obtains the password written in the URL (step S314).

[0458]

The CGI script of the WWW server 122 controls the database server 123 to search the database 123a for the corresponding user password by use of the login ID written in the URL (step S315). Further, the CGI script

compares the password retrieved by the database server 123 with the password inputted by the user (step S316). If these passwords are found mismatching, the WWW server 122 sends an error message to the mobile terminal apparatus 110 (step S317). If these passwords are found matching, the WWW server 122 issues a top menu screen written in HTML for selecting a mode for requesting a program guide or a mode for requesting a preset completion list of programs already set for preset recording and transmits this screen to the mobile terminal apparatus 110 (step S318).

[0459]

The browser software of the mobile terminal apparatus 110 receives the HTML information from the WWW server 122, analyzes the received HTML information, and displays a resultant authentication menu screen as shown in FIG. 52 for example on the display section 110a.

[0460]

The top menu screen allows the user to select one of the modes "1: Ordinary program guide" for retrieving a program guide and "2: Preset completion list" for displaying a list of programs already set for preset recording. These modes are linked with the URL of the WWW server 122 as shown below. The URL is written as

"https://www.rompass.com/imode/remote/OpRequest.cgi?LoginID=**&PW=**&COM=**" for example, having "LoginID" and "PW" and "COM" as arguments. "COM=" is followed by a predetermined command. In this example, the command for indicating "1: Ordinary program guide" or "2: Preset completion list" depending on the user selection becomes the argument. When this URL is accessed, the browser software of the mobile terminal apparatus 110 accesses the WWW server 122 of the server apparatus 120 to request the transfer of the HTML information written in this URL.

[0461]

In response, as shown in the flowchart of FIG. 53, the WWW server 121 of the server apparatus 120 obtains the argument written in the URL (step S321) to determine whether the accessing browser software is the predetermined browser software of the mobile terminal apparatus 110 of which use is allowed in the program preset recording system 100 (step S322). If the browser software is found not the authorized browser software, the WWW server 122 transmits an error message to the mobile terminal apparatus 110 (step S323).

[0462]

If the browser software is found the authorized browser software, then the database server 123 compares

the login ID and password written in the URL with those stored in the database 123a (step S324). If they are found mismatching, the database server 123 sends an error message to the mobile terminal apparatus 110 (step S325). If they are found matching, the database server 123 determines whether the command ID written in the URL is 100 for example which indicates the ID number of "1: Ordinary program guide" (step S326). If the command ID is found 100, a predetermined CGI script stored in the storage section of the WWW server 122 generates a program guide in the form of HTML (step S327).

[0463]

If the command ID is not 100, then it is determined whether the command ID is 101 for example which indicates the ID number of "2: Preset completion list" (step S328). If the command ID is found not 101, the database server 123 sends an error message to the mobile terminal apparatus 110 (step S329). If the command ID is found 101, a predetermined CGI script stored in the storage section of the WWW server 122 obtains from the database 123a a preset recording list of the programs already set for preset recording by the user (step S330) to generate a preset completion list in the form of HTML (step S331).

[0464]

The generated program guide or preset completion list is transmitted to the mobile terminal apparatus 110 to be displayed by the browser software, not shown, on the display section 110a. Viewing the display section 110a of the mobile terminal apparatus 110, the user selects a predetermined program to set the preset recording or cancel the setting of preset recording.

[0465]

For example, if the user selects "1: Ordinary program guide" on the screen shown in FIG. 52, the ordinary program guide is generated by the server apparatus 120 and a list of broadcast stations which broadcast the programs as shown in FIG. 54 is displayed on the display section 110a of the mobile terminal apparatus 110.

[0466]

Each broadcast station displayed on the display section 110a has its ID number, which is written to the URL when the user selects that broadcast station as a CGI argument. For example, the URL becomes "https://www.rompass.com/imode/remote/Station.cgi?LoginID=**&PW=**&STID=**&DT=**&STA=**&LEN=**", broadcast ID, date of program guide transmission, and time zone of program guide transmission being written to positions of

"**" following "STID=", "DT=", "STA=" and "LEN=" respectively.

[0467]

For example, if the user wants a program guide of the broadcast station called "○× General" for only two hours start at 19:00 of March 29, 2000, then if the ID of this station is "1", the arguments become "STID=1", "DT=20000329", "STA=190000", and "LEN=020000".

[0468]

When the user accesses this URL, the browser software of the mobile terminal apparatus 110 accesses the WWW server 122 of the server apparatus 120 to request the transfer of the HTML information written in the URL.

[0469]

When the URL having a broadcast station selecting argument is accessed, a program selection screen is displayed on the display section 110a of the mobile terminal apparatus 110, the screen allowing the user to select a desired program from among the programs arranged in a time-dependent manner to be broadcast from that station.

[0470]

With reference to the screen shown on the display section 110a of the mobile terminal apparatus 110 shown

in FIG. 55, the user selects a desired program to be set for preset recording.

[0471]

Each program is linked with a URL for accessing the WWW server 122 of the server apparatus 120, the URL being attached with a different argument for a different program. For example, the URL is "https://www.rompass.com/imode/remote/Station.cgi?LoginID=**&PW=**&STID=**&DT=**&STA=**" having login ID, password, station ID, broadcasting date, and broadcasting start time of the program as arguments.

[0472]

For example, if the user selects "○× News 7" to be broadcast at 19:00, arguments "DT=20000329", which is the broadcasting date March 29, 2000 and "STA=190000", which is broadcasting start time 19:00 are attached to the URL. Consequently, the user-specified program "○× News 7" can be identified.

[0473]

The screen shown on the display section 110a shown in FIG. 55 can be scrolled by the user at the input section, not shown, of the mobile terminal apparatus 110. Therefore, if there are two or more programs scheduled for broadcasting in the specified time zone as shown in

FIG. 54, the user can scroll the screen to any desired program.

[0474]

As shown in FIG. 56, if the desired program is broadcast before the time shown on the screen on the display section 110a, user clicks "Back" button or, if the desired program is broadcast after the displayed time, the user clicks "Next" button. If the user wants to preset a program to be broadcast from another station, the user clicks "To Another Channel" button. Consequently, a new program selection screen is shown on the display section 110a for program selection by the user in the above-mentioned procedure.

[0475]

Each of the above-mentioned buttons shown in FIG. 56 is linked with a URL corresponding to the WWW server 122 of the server apparatus 120, each URL having an argument for identifying the button.

[0476]

When a program is selected by the user as shown in FIG. 55 or 56, the browser software of the mobile terminal apparatus 110 obtains HTML information from the WWW server 122 and analyzes the obtained HTML information to display a resultant preset recording operation

confirmation screen as shown in FIG. 57 on the display section 110a.

[0477]

It is assumed that program "○× News 7" of station "○× General" to be broadcast from 19:00 to 19:45 on March 29, 2000 has been selected by the user. The preset recording operation confirmation screen shown in FIG. 57 has "Yes" button and "No" button for finally making confirmation of whether the user sets the preset recording of the program. To set the preset recording, the user clicks "Yes" button. To cancel the setting, the user clicks "No" button. These buttons are linked with the following URL. When one of the buttons is clicked, the browser software of the mobile terminal apparatus 110 searches the WWW server 122 of the server apparatus 120 for the HTML information and requests the transmission of the retrieved HTML information.

[0478]

The URL linked with each of the above-mentioned buttons is "https://www.rompass.com/imode/remote/confirm/.cgi?LoginID=**&PW=**&STID=**&DT=**&STA=**&COM=**" for example, login ID, password, program broadcasting date, program broadcasting start time, and command ID being attached as

CGI script arguments. For the command ID, the ID number of a command for setting preset recording is attached for the URL linked with "Yes" button or the ID number of a command for not setting preset recording is attached for the URL linked with "No" button, each ID number being written after "&COM=".

[0479]

On the other hand, if "2: Preset completion list" is selected on the screen shown in FIG. 52, a preset completion list is generated in the server apparatus 120 and the generated list is shown on the display section 110a of the mobile terminal apparatus 110 as shown in FIG. 58. Each of the program in this list is linked with a URL for accessing the WWW server 122 of the server apparatus 120, a different argument being attached to a different URL.

[0480]

For example, the above-mentioned URL is "https://www.rompass.com/imode/remote/PgCancel.cgi?LoginID=**&PW=**&STID=**&DT=**&STA=**2" having login ID, password, station ID, broadcasting date, and broadcasting time as arguments.

[0481]

If the user selects program "PaPaPaPa ○△×" for

example, the URL is attached with arguments "DT=20000328" indicative of program broadcasting date March 28, 2000 and "STA=190000" indicative of broadcast start time 19:00. Consequently, program "PaPaPaPa ○△×" selected by the user can be identified.

[0482]

When the program is selected by the user as shown in FIG. 58, the browser software of the mobile terminal apparatus 110 obtains HTML information from the WWW server 122 and analyzes the retrieved HTML information to display a preset operation confirmation screen as shown in FIG. 59 on the display section 110a.

[0483]

It is assume here that program "PaPaPaPa ○△×" of station "○× General" to be broadcast from 19:00 to 19:45 on March 28, 2000 be selected as shown in FIG. 58. The preset recording operation confirmation screen shown in FIG. 59 has "Yes" button and "No" button for finally making confirmation of whether the user sets the preset recording of the program. To set the preset recording, the user clicks "Yes" button. To cancel the setting, the user clicks "No" button. These buttons are linked with the following URL. When one of the buttons is clicked, the browser software of the mobile terminal apparatus 110

searches the WWW server 122 of the server apparatus 120 for the HTML information and requests the transmission of the retrieved HTML information.

[0484]

The URL linked with each of the above-mentioned buttons is "https://www.rompass.com/imode/remote/confirm/.cgi?LoginID=**&PW=**&STID=**&DT=**&STA=**&COM=**" for example, login ID, password, program broadcasting date, program broadcasting start time, and command ID being attached as CGI script arguments. For the command ID, the ID number of a command for canceling the setting of preset recording is attached for the URL linked with "Yes" button or the ID number of a command for not canceling the setting of preset recording is attached for the URL linked with "No" button, each ID number being written after "&COM=".

[0485]

The following describes, with reference to the flowchart shown in FIG. 60, an operation of the server apparatus 120 to be executed when program preset recording is set or the setting of program preset recording is canceled on the screen shown in the display section 110a of the mobile terminal apparatus 110 shown

in FIG. 57 or 59.

[0486]

First, when the user clicks "Yes" or "No" button of the preset recording confirmation screen or preset recording setting cancel screen shown in FIG. 57, the WWW server 122 of the server apparatus 120 obtains an argument written in the URL accordingly (step S341) to determine whether the accessing browser software is the predetermined browser software of the mobile terminal apparatus 100 of which use is allowed in the program preset recording system 100 (step S342).

[0487]

If the accessing browser software is found to the authorized browser software, the WWW server 122 of the server apparatus 120 sends an error message to the mobile terminal apparatus 110 (step S343). If the accessing browser software is found the authorized browser software, then the database server 123 compares the login ID and password of written in the URL with those stored in the database 123a (step S344). If they are found mismatching, the database server 123 sends an error message to the mobile terminal apparatus 110 (step S345). If they are found matching, the database 123 searches the program information stored in the program DB for the

corresponding program information by use of the station ID and program start time arguments obtained in step S341 (step S346).

[0488]

If no corresponding program information is found, the database server 123 sends an error message to the mobile terminal apparatus 110 (step S347). If the corresponding program information is found, the database server 123 determines whether the program written in the URL is one broadcast before the current time (step S348). If the program is found broadcast in the past, the database server 123 sends an error message to the mobile terminal apparatus 110 (step S349).

[0489]

For example, in step S348, the controller, not shown, of the server apparatus 120 determines that the broadcast start time has passed if T1prog ≤ T1curr where T1prog is program start time and T1curr is current time. Then, in step S349, the controller notifies the mobile terminal apparatus 110 thereof. If T1prog > T1curr, the controller of the server apparatus 120 determines that the program has not yet been broadcast, upon which the procedure goes to step S350.

[0490]

In step S350, let time at which the access software of the terminal apparatus 2 polled last (the time at which the terminal apparatus 2 accesses the server apparatus 120) be P0prev and a polling interval at which the terminal apparatus 2 polls the server apparatus 120 be INTVPo for example, then polling time P0next at which the access software of the mobile terminal apparatus 110 polls the server apparatus 120 is expressed as P0next = P0prev + INTVPo.

[0491]

Therefore, if T1prog ≤ P0next, the controller of the server apparatus 120 determines that the program preset recording cannot be set, upon which the procedure goes to step S351, in which the controller notifies the mobile terminal apparatus 110 thereof.

[0492]

If T1prog > P0next, the procedure goes to step S352, in which the controller of the server apparatus 120 executes the setting of program preset recording at the next polling by the access software of the mobile terminal apparatus 110.

[0493]

Next, the controller of the server apparatus 120 determines whether the command ID obtained in step S341

is an authorized command (step S352). If the command is found not authorized, the controller sends an error message to the mobile terminal apparatus 110 (step S353).

[0494]

The controller of the server apparatus 120 generates a program preset recording setting script or a program preset recording setting cancel script of a predetermined format adapted to the preset recording setting software of the terminal apparatus 2 (hereinafter, a program preset recording setting script or a program preset recording setting cancel script is also referred to as an operation script) (step S354). This predetermined format has station name, program start time, program end time, program title, program attribute information for example as well as command and user login ID as extension information.

[0495]

In response to the generation of the operation script, the controller of the server apparatus 120 registers, as an operation log, the access from the mobile terminal apparatus 110 with the operation DB of the database 123a (step S355) and notifies the mobile terminal apparatus 110 of the acceptance of a preset event. If the terminal apparatus 2 receives a program

preset recording setting script or a program preset recording setting cancel script, the controller notifies the mobile terminal apparatus 110 of the transmission of electronic mail having information thereof (step S356).

[0496]

When a program preset recording setting script or a program preset recording setting cancel script has been generated, the terminal apparatus 2 downloads the generated script from the server apparatus 120 as described in the flowcharts shown in FIGS. 61, 62, and 65.

[0497]

First, as shown in FIG. 62, the controller 133 of the terminal apparatus 2 starts the terminal apparatus 2 at a predetermined time (a polling time) to search a terminal apparatus database, not shown, for a preset list (L1) which lists programs already set for preset recording (step S361).

[0498]

The preset list L1 consists of a list of programs set for preset recording by the program preset recording setting script generated by the server apparatus 120 and a list of programs set for preset recording by the user directly from the input section, not shown, of the terminal apparatus 2. Namely, the list L1 contains all

lists of the programs set for preset recording at the terminal apparatus 2.

[0499]

Next, the controller 133 of the terminal apparatus 2 obtains a completion list (L2) which lists the programs already recorded to the recording medium 131 (step S363). Of the programs listed in list L2, "Preset" status is attached to each program set for preset recording.

[0500]

In addition, in response to a request by the mobile terminal apparatus 110 for setting of preset recording, the controller 133 of the terminal apparatus 2 obtains information (L3) from a preset recording completion file, which is a file of programs of which setting for preset recording has been completed (step S364).

[0501]

The controller 133 of the terminal apparatus 2 compares L1 with L3. The controller 133 determines those programs which are found in L1 and not found in L3 to be the programs which were set for preset recording by the user from the input section of the terminal apparatus 2, adding these programs to the status list (step S365). Further, the controller 133 of the terminal apparatus 2 adds those programs attached with "Preset" status in the

retrieved L2 to the status list (step S366).

[0502]

The terminal apparatus 2 is set for preset recording by the mobile terminal apparatus 110 or directly by the user. In the former, the setting is performed via the server apparatus 120, so that the server apparatus 120 can know the programs to be set for preset recording by the mobile terminal apparatus 110.

[0503]

If the preset recording is set directly by the user to the terminal apparatus 2, the server apparatus 120 which must manage all information in the program preset recording system 100 cannot know the programs set for preset recording. Therefore, the status is provided which notifies the server apparatus 120 of the setting status of the programs which are outside the control of the server apparatus 120. Therefore, the status list is updated every time the terminal apparatus 2 downloads the operation script from the server apparatus 120. It should be noted that each program added to the status list is hereinafter referred to as an element.

[0504]

When step S366 has been completed, the procedure goes to the steps described in the flowchart shown in FIG.

62.

[0505]

As shown in the flowchart shown in FIG. 62, the controller 133 of the terminal apparatus 2 starts the access software stored in the storage section 131 at a predetermined time in accordance with a polling interval specifying the time of access to the server apparatus 120 to access the server apparatus 120, thereby establishing a session between the terminal apparatus 2 and server apparatus 120 (step S367). When the session has been established, the procedure goes to the next step. If the establishment of the session failed, the controller 133 sends an error message to the mobile terminal apparatus 110 (step S368).

[0506]

The access software stored in the storage section 132 of the terminal apparatus 2 accesses, via http, a CGI script of the WWW server 122 of the server apparatus 120 to check the operation script of the mobile terminal apparatus 110 stored in the operation log DB (step S369). If the operation information is found, the procedure goes to step S371; otherwise, the procedure goes to step S384 (step S370). An http command for accessing the CGI script is

"http://www.rompass.com/imode/remote/get.OpInfo.cgi?Login ID=**&PW=**&VER=**" for example, having login ID, password, and version information as arguments.

[0507]

The CGI script of the WWW server 122 takes out login ID and password and compares them with those in the user information DB for user authentication (step S371). If the user is authenticated, the database server 123 of the server apparatus 120 registers the access time with the access log DB of the database 123a.

[0508]

The CGI script controls the database server 123 to take out the operation script subsequent to the current time from the operation log DB of the database 123a. The access software of the terminal apparatus 2 reads only one of the operation scripts taken out by the CGI script (step S372). The operation script to be read from the operation log DB by the CGI script consists of one or more scripts. The access software reads these scripts one by one for processing.

[0509]

FIG. 63 shows an exemplary operation script. The operation script shown is for one program, in which plural pieces of program information are defined by tags

<TVProgram> through </TVProgram> to provide one operation script. Further, if there are two or more operation scripts, these scripts are defined by tags <GPOperation> through </GPOperation> shown in FIG. 64.

[0510]

The access software of the terminal apparatus 2 takes out an operation command defined by <command> through </command> of the retrieved operation script (step S373) and also takes out the program information portion other than the operation command (step S374) to determine whether the retrieved parameter is valid or not (step S375). If the parameter is found valid, the procedure goes to step S375; otherwise, the procedure returns to step S372.

[0511]

The controller of the terminal apparatus 2 determines whether the operation command of the operation script found valid by the access software is a command for the setting of preset recording or a command for the cancellation of the setting of preset recording. According to the decision, the controller of the terminal apparatus 2 issues a device operation command, which is a control command for recording the program to the recording medium 132 and sends the issued command to the

recording section, not shown (step S376). The controller of the terminal apparatus 2 registers the above-mentioned operational status with an operation log file, not shown (step S377).

[0512]

Next, the access software of the terminal apparatus 2 determines whether there is any other operation script (step S378). If another operation script is found, the procedure goes to step S379; otherwise, the procedure returns to step S372.

[0513]

When the number of times the operation results of the terminal apparatus 3 by the operation script are transmitted to the server apparatus 120 has reached N (here, N = 3 for example), the transmission of operation results is stopped, upon which the procedure goes to step S382. If the number is less than N, then the procedure repeats going to step S380 until the transmission to the server apparatus 120 is successful (step S379).

[0514]

The access software of the terminal apparatus 2 accesses a CGI script of the WWW server 122 of the server apparatus 120 via http and transmits the operation results obtained by this operation script at the terminal

apparatus 2 (step S380). At this moment, if an http command for operation results transmission generated by the access software of the terminal apparatus 2 is "http://www.rompass.com/imode/remote/remoteResult.cgi?LoginID=**&PW=**&VER=**&ST=**&STA=**&COM=**&RES=**" for example, station ID, broadcast start time, operation command, and operation results being added as arguments after "ST=", "STA=", "COM=", and "RES=" respectively.

[0515]

In response to the status of the reception of the operation results from the terminal apparatus 2, the CGI script of the server apparatus 120 transmits a script defined by tags <Result> through </Result> for reporting the reception status to the terminal apparatus 2 as a return value.

[0516]

When the reception of the operation results from the terminal apparatus 2 is successful, the server apparatus 120 transmits "0" to the terminal apparatus 2; otherwise the server apparatus 120 transmits "1" to the terminal apparatus 2. When the server apparatus 120 is successful in the reception of the operation results, the procedure goes to step S382; otherwise, the procedure returns to step S379 (step S381).

[0517]

When the transmission of the operation results to the server apparatus 120 is successful, the controller 133 of the terminal apparatus 2 records the information thereof to the operation log file and the preset completion file (step S382). If there is any other operation results information, the procedure returns to step 379; otherwise, the procedure goes to step S383.

[0518]

If there is any element in the status list, the controller 133 of the terminal apparatus 2 takes out one element from the status list (steps S384 and S385); otherwise, the procedure goes to step S390.

[0519]

When the number of times one element taken out of the status list is transmitted to the server apparatus 120 has reached N (N = 3 for example), the transmission of operation results is stopped, upon which the procedure goes to step S389. If the number is less than N, then the procedure repeats going to step S387 until the transmission to the server apparatus 120 is successful (step S386).

[0520]

The access software of the terminal apparatus 2

accesses the CGI script of the WWW server 122 of the server apparatus 120 via http to transmit the element taken out in step S385 (step S387). The type of http command depends on the element to be transmitted. For a program of which recording has been completed, the http command is "http://www.rompass.com/imode/remote/remoteRecord.cgi?LoginID=**&PW=**&STID=**&DT=**&STA=**&VER=**" for example. For a program of which preset recording has been set directly to the terminal apparatus 3 is "http://www.rompass.com/imode/remote/remoteReserved.cgi?LoginID=**&PW=**&STID=**&DT=**&STA=**&VER=**" for example.

[0521]

In accordance with the reception status of the element transmitted from the terminal apparatus 2, the CGI script of the server apparatus 120 transmits a script defined by tags <Result> through </Result> for reporting the reception status as a return value. When the server apparatus 120 is successful in the reception, the server apparatus 120 transmits "0"; otherwise, the server apparatus 120 transmits "1". If the element is successfully received by the server apparatus 120, the procedure goes to step S389; otherwise, the procedure returns to step S386 (step S388).

[0522]

If the controller 133 of the terminal apparatus 2 finds another element in the status list, the procedure returns to step S385; otherwise, the procedure goes to step S390 (step S389).

[0523]

Next, as shown in the flowchart of FIG. 65, the database server 123 of the server apparatus 120 stores the element taken out of the status list of the terminal apparatus 2 into the preset DB of the database 123a (step S390), upon which the session between the terminal apparatus 2 and server apparatus 120 comes to an end (step S391). If the session has not been terminated normally, an error message is transmitted to the mobile terminal apparatus 110 (step S392).

[0524]

The following describes an operation of the server apparatus 120 to be executed when receiving the setting results of a script received from the terminal apparatus 2 with reference to the flowchart shown in FIG. 66.

[0525]

First, the CGI script of the WWW server 122 of the server apparatus 120 obtains all arguments from the http command generated by the access software of the terminal

apparatus 2 (step S401) and, by use of the retrieved login ID and password, searches the user information DB of the database 123a for the user ID to identity the user (step S403).

[0526]

If the user identification failed, the server apparatus 120 transmits an error message to the mobile terminal apparatus 110 (step S403). If the user identification is successful, the procedure goes to step S404, in which the CGI script controls the database server 123 to obtain the program information by use of broadcast station ID and program start time (step S404). If the program information cannot be obtained, the CGI script transmits an error message to the terminal apparatus 2 (step S405).

[0527]

The database server 123 of the server apparatus 120 searches the operation DB of the database 123a for an operation log associated with the program having the program information obtained in step S404 (step S406). If no operation log is found, the database server 123 transmits an error message to terminal apparatus 2 (step S407). If an operation log is found, the database server 123 enters the operation results received from the

terminal apparatus 2 into the result item box of the operation DB (step S408) and the access date and time into the polling DB (step S409).

[0528]

Next, in order to notify the terminal apparatus 2 of the success or failure of the above-mentioned reporting of the operation results, the CGI script transmits a script defined by tags <Result> through </Result> for indicating the success or failure of the reporting. If the reporting is successful, the CGI script transmits "0"; otherwise, the CGI script transmits "1" (step S410).

[0529]

Further, the server apparatus 120 searches the user information DB of the database 123a for the electronic mail address of the mobile terminal apparatus 110 by use of the user ID obtained in step S202 (step S412). If the electronic mail address is found, the mail server 121 generates an electronic mail message attached with an operation result comment for notifying that the setting of the script to the terminal apparatus 2 is successful (step S413) and transmits the generated electronic mail message to the mobile terminal apparatus 110 (step S414). If the electronic mail address of the terminal apparatus

2 is not found, the mail server 121 transmits an error message to the mobile terminal apparatus 110.

[0530]

The following describes an operation of the server apparatus 120 to be executed when obtaining an element of the status list received from the terminal apparatus 2 with reference to the flowcharts shown in FIGS. 67 and 68.

[0531]

First, with reference to the flowchart of FIG. 67, an example will be described in which an element indicative of the program information about a program set by the user for preset recording at the terminal apparatus 2 is received by the server apparatus 120.

[0532]

The WWW server 122 of the server apparatus 120 receives an http command from the terminal apparatus 2 to obtain all arguments from the received http command (step S421).

[0533]

The CGI script of the WWW server 122 searches the user information DB of the database 123a for the user ID by use of the obtained arguments of login ID and password to identify the user (step S422). If the user identification failed, the server apparatus 120 transmits

an error message to the mobile terminal apparatus 110 (step 423). If the user identification is successful, the procedure goes to step S424, in which the CGI script controls the data server 123 to obtain the program information by use of the obtained station ID and program start time (step S424). If the program information cannot be obtained, the CGI script transmits an error message to the terminal apparatus 2 (step S425).

[0534]

Further, the CGI script searches the preset DB and the operation DB of the database server 123a for the program of which program information has been obtained from the program DB as described above. If the program is not found in the preset DB, the CGI script registers this program with the preset DB. Those programs registered with the preset DB which are not found in the operation DB are attached with identification marker "Manual Preset" for example in order to indicate that these programs were directly set for preset recording to the terminal apparatus 2.

[0535]

The following describes, with reference to the flowchart shown in FIG. 68, an example in which the server apparatus 120 receives an element indicative of

the program information of the program recorded to the recording medium of the terminal apparatus 2 to which preset recording has been set.

[0536]

The WWW server 122 of the server apparatus 120 receives an http command from the terminal apparatus 2 to obtain all arguments from the received http command (step S431).

[0537]

The CGI script of the WWW server 122 searches the user information DB of the database 123a for the user ID by use of the obtained arguments of login ID and password to identify the user (step S432). If the user cannot be identified, the server apparatus 120 transmits an error message to the mobile terminal apparatus 110 (step S433). If the user identification is successful, the procedure goes to step S434, in which the CGI script controls the data server 123 to obtain the program information by use of the obtained station ID and program start time (step S434). If the program information cannot be obtained, the CGI script transmits an error message to the terminal apparatus 2 (step S435).

[0538]

On the basis of the program information retrieved

by the database 123a, the CGI script searches the preset DB of the database 123a to determine whether the retrieved program is attached with marker "Manual Preset" (step S436).

[0539]

If marker "Manual Preset" is not attached, the mail server 121 attaches marker "Completed" anew to the program information in the preset DB (step S437) and issues an electronic mail message (step S438). If marker "Manual Preset" is attached, the procedure comes to an end.

[0540]

Further, the CGI script searches the user information DB for the electronic mail address of the mobile terminal apparatus 110 by use of the user ID obtained in step S432 (step S439). If the electronic mail address of the terminal apparatus 2 is not found, the CGI script transmits an error message to the terminal apparatus 2 (step S440). If the electronic mail address is found, the CGI script generates an operation result comment indicating that the program set for preset recording from the mobile terminal apparatus 110 has been recorded to the recording medium (step S441) and transmits the electronic mail message generated in step

S438 with the electronic mail address retrieved in step S439 and the operation result comment generated in step S440 to the mobile terminal apparatus 110 (step S442).

[0541]

As described, the program preset recording system 100 allows the user to perform, from the mobile terminal apparatus 110 at a remote location, the setting of preset recording of user-specified programs to the terminal apparatus 2 by use of an existing network, such as the Internet.

[0542]

Further, if the setting for preset recording is made directly by the user at the terminal apparatus 2, predetermined management information may be transmitted to the server apparatus via the above-mentioned network to collectively manage, by the server apparatus 120, the programs set for preset recording to the terminal apparatus 2.

[0543]

In addition, because an existing network is available, the cost and time required for the arrangement of communications infrastructures can be significantly saved, which in turn significantly saves the users of system usage fees.

[0544]

The following describes the fee-charge processing in the program preset recording system 40 practiced as one embodiment of the invention.

[0545]

The program information providing apparatus 43 of the program preset recording system 40 shown in FIG. 28 has a fee-charging apparatus, not shown. When program preset recording to the storage section of the terminal apparatus 2 or the recording apparatus 45 is set or this setting is canceled, the fee-charging apparatus charges the user accordingly. It should be noted that fee-charging is made when a program is set for preset recording and fee-charging is canceled when the setting of preset recording is canceled.

[0546]

For example, when a program preset recording setting script generated by the program information providing apparatus 43 is transmitted to the terminal apparatus 2 and an operation of setting the program preset recording to the recording section of the terminal apparatus 2 or the recording apparatus 45 by the program preset recording setting script or canceling the setting for program preset recording by a program preset

recording setting cancel script is successful, the program preset recording setting script pickup software stored in the storage section, not shown, of the terminal apparatus 2 accesses, by use of the program information and user authentication information as arguments, the above-mentioned program preset recording setting result report CGI script stored in the storage section, not shown, of the program information providing apparatus 43. When accessed, the program preset recording setting result report CGI script generates and sends an electronic mail message for notifying the mobile terminal apparatuses 42a, 42b, and 42c of the setting or the cancel of the setting for preset recording. At the same time as sending the electronic mail message to the mobile terminal apparatuses 42a, 42b, and 42c, the controller of the program information providing apparatus 43 determines that the user who has set the preset recording or canceled the setting of preset recording is chargeable and charges the user.

[0547]

Further, the amount of fee to be charged on the terminal apparatus 2 by the fee-charging apparatus depends on which of the program information providing apparatus 43 and the terminal apparatus 2 accesses the

telephone line when establishing a session between them and the amount of fee to be charged on the terminal apparatus 2 changes. As described with reference to step S212 of FIG. 30, if the program information providing apparatus 43 accesses the terminal apparatus 2, then an amount of fee obtained by adding the usage fee of the program preset recording system 1 to the telephone charge for this access is charged on the terminal apparatus 2 by the fee-charging apparatus. If the terminal apparatus 2 accesses the program information providing apparatus 43 as described with reference to step S213 of FIG. 30, then the telephone charge is billed directly to the terminal apparatus 2 from the telephone company, so that the terminal apparatus 2 is charged with only the usage fee of the program preset recording system 40 by the fee-charging apparatus.

[0548]

As described, the program preset recording system 40 allows the user to set desired programs for preset recording from the mobile terminal apparatus 2 to the recording section of the terminal apparatus 2 or the recording apparatus 45. At the same time, by use of the fee-charging apparatus, the program preset recording system 40 can charge its users for its usage fees.

[0549]

It should be noted that, although the mobile terminal apparatuses 42a, 42b, and 42c practiced as embodiments of the invention are described as having different capabilities, these apparatuses may also be functionally identical.

[0550]

In the above examples, the mobile terminal apparatuses 42a, 42b, and 42c, which are a mobile telephone, a PDA, or mobile PC, are used from which the user inputs commands for generating program preset recording setting scripts. Obviously, these mobile terminal apparatuses 42a, 42b, and 42c may be replaced by PCs having the equivalent capabilities to constitute the program preset recording system 40.

[0551]

Lastly, a profit collecting method in a service in accordance with the program-associated information for providing the information associated with programs provided by the commissioning broadcast provider 3 to users will be detailed below.

[0552]

In order to provide the program-associated information which is the information associated programs

provided by the commissioning broadcast provider 3 to users, the program service providing apparatus 6 has a program-associated information providing apparatus 203 shown in FIG. 69. The program-associated information providing apparatus 203, a broadcast station 202, a terminal apparatus 2, and a plurality of program-associated information providing servers 206 constitute a program-associated information providing system 201 via a network 207.

[0553]

The broadcast station 202 is a contract broadcaster which is commissioned with programs created by the commissioning broadcast provider 3 and transmits these programs to the terminal apparatus 2 by a predetermined transmission means.

[0554]

The broadcast station 202 transmits predetermined programs commissioned by the commissioning broadcast provider 3 to the terminal apparatus 2 by use of a predetermined television signal 210 having a predetermined frequency band. The broadcast station 202 may also be connected with the terminal apparatus 2 with a dedicated cable 211, and over the cable 11 the broadcast station 202 transmits predetermined programs to

the terminal apparatus 2. The broadcast station 202 may also be connected with a network 207 over which the broadcast station 202 transmits predetermined programs to the terminal apparatus 2.

[0555]

The program-associated information providing apparatus 203, connected with the network 207, has a database 203a storing the program information, which is the attribute information, of the programs broadcast by the broadcast station 202, for example, a program introductory comment summarizing the contents of each program, and a program guide listing the programs organized by channel and a database 203b storing program preset recording setting script to be described later in the account for each user.

[0556]

The program information and the program guide based on the program information stored in the database 203a of the program-associated information providing apparatus 203 are provided by the DMC provider 5.

[0557]

The storage section, not shown, of the program-associated information providing apparatus 203 stores a Web server program for providing the program information

and the program guide stored in the database on the Internet via a Web browser installed on the terminal apparatus 2.

[0558]

The program-associated information providing apparatus 203 generates, upon request by the user, a program preset recording setting script, which is a control command based on the program information, for controlling the recording section of the terminal apparatus 2 or a recording apparatus 5 to automatically record a program broadcast from the broadcast station 202 at a predetermined time to a recording medium of the recording section or the recording apparatus 205 (this is referred to as a preset recording mode) and transmits the generated script to the terminal apparatus 2 over the network 207.

[0559]

The program preset recording setting script generated by the program-associated information providing apparatus 203 when setting a program for preset recording is also generated to link a program with its program-associated information to be described later when the user views the program realtime at the terminal apparatus 2 (this is referred to as an on-air mode) to be

transmitted to the terminal apparatus 2 over the network 207. The script generated in the on-air mode is referred to as a program-associated information script.

[0560]

The terminal apparatus 2, which is a PC (Personal Computer) for example, incorporates a ground wave receiving tuner, a BS (Broadcasting Satellite) tuner, and a CS (Communications Satellite) tuner. Each of these tuners receives modulated programs transmitted by a carrier having a predetermined frequency and demodulates the received programs into programs composed of video and audio signals. The terminal apparatus 2 may also be connected with the broadcast station 202 with the dedicated cable 211, and over the cable 11 the terminal apparatus 2 receives predetermined programs from the broadcast station 4. The terminal apparatus 2 is also connected with the broadcast station 202 via the network 207 over which the terminal apparatus 2 receives predetermined programs from the broadcast station 202.

[0561]

The terminal apparatus 2 has a recording section for recording the received programs to a recording medium pre-installed in the recording section or a recording medium which is detachably loaded into the recording

section. The recording medium is a magnetic tape, a magnetic disk, a magneto-optical disk, or an optical disk, for example. The terminal apparatus 2 receives a program preset recording setting script from the program-associated information providing apparatus 203. The controller of the terminal apparatus 2 converts the received program preset recording setting script into a preset recording control signal suitable for the processing by the recording section and controls it in accordance with the preset recording control signal to record the program to the recording medium. When transmitting the program preset recording setting script to the recording apparatus 5 specified therein, the terminal apparatus 2 converts the program preset recording setting script into a control signal suitable for the processing by each recording apparatus 5. For example, the terminal apparatus 2 converts the program preset recording setting script into an IR (Infrared) control signal, a LAN (Local Area Network) control signal, or an iLINK (trademark) control signal.

[0562]

The terminal apparatus 2 has a reproducing section for reproducing a program stored in its recording medium and displays the reproduced program on a display section

2a of the terminal apparatus 2 by use of a program display browser. This configuration allows the user to view the recorded programs any time. The terminal apparatus 2 can not only reproduce and display on the display section 2a programs recorded to the recording medium, but also directly display programs transmitted from the broadcast station 202 through the program display browser.

[0563]

The terminal apparatus 2 also stores in its storage section not shown a URL display browser for displaying a program-associated information URL indicative of the location on the network 207 of the program-associated information of a program to be displayed through a program display browser and a program-associated information display browser for searching the network 207 in response to the access to the program-associated information URL for the program-associated information located at the place indicated by the above-mentioned program-associated information URL and displaying the retrieved program-associated information on the display section 2a.

[0564]

The terminal apparatus 2 also stores, in its

storage section not shown, program preset recording setting script pickup software for obtaining program preset recording setting scripts stored for each account of the terminal apparatus 2 in the database 203b of the program-associated information providing apparatus 203. This program preset recording setting script pickup software starts when a session has been established between the terminal apparatus 2 and the program-associated information providing apparatus 203 to search the account of the user in the database 203b for the program preset recording setting script and downloads the retrieved script.

[0565]

It should be noted that the terminal apparatus 2 may be a mobile PC or a mobile information terminal device, such as a PDA, having the capabilities of connecting with the network 207 and receiving programs.

[0566]

The recording apparatus 205 incorporates a ground wave receiving tuner, a BS tuner, and a CS tuner. Each tuner receives modulated programs transmitted on a carrier having a predetermined frequency and demodulates the received programs into programs composed of video and audio signals. The recording apparatus 5 has a recording

section for recording the received programs to a recording medium pre-installed in the recording section or a recording medium which is detachably loaded into the recording section. The recording medium is a magnetic tape, a magnetic disk, a magneto-optical disk, or an optical disk, for example. The recording apparatus 205 receives a preset recording control signal based on the program preset recording setting script received from the terminal apparatus 2. The recording apparatus 205 receives the preset recording control signal from the terminal apparatus 2 and records the program to the recording medium in accordance with the received preset recording control signal. The recording apparatus 205 may have a plurality of recording devices such as a recording apparatus 205a, which is a DV (Digital Video), a recording apparatus 205b, which is a VTR (Video Tape Recorder), and a recording apparatus 205c, which is a DVD (Digital Video Disk), as shown in FIG. 69 for example.

[0567]

There are two or more program-associated information providing servers 206 on the network 207, each storing plurality pieces of program-associated information associated with programs received from the broadcast station 202. Each program-associated

information providing server 206 provides the program-associated information in response to the specification by the terminal apparatus 2 through the URL displayed on the URL display browser.

[0568]

The program-associated information includes, but not exclusively, properties such as costumes and watches and locations if the program is a drama; additional information such as hotel information, travel plans, and travel agent information which cannot be introduced in a travel program; and detail recipe introduced in a cooking program, for example. The program-associated information may be any if associated with a program even if only slightly and therefore not limited to the additional information mentioned above.

[0569]

The network 207 interconnects the broadcast station 202, the program-associated information providing apparatus 203, the terminal apparatus 2, and the program-associated information providing server 206, allowing the connected apparatuses to transfer information each other.

[0570]

The following describes a program preset recording setting script to be generated in the preset recording

mode in the program-associated information providing apparatus 203 with reference to FIG. 70.

[0571]

Each program preset recording setting script has a program information writing area 20a in which the information about a program to be set for preset recording is written and a URL list writing area 20b in which the information for linking a URL list containing the location of program-associated information with the program is written.

[0572]

The program information writing area 20a of each program preset recording setting script contains "station" indicative of the broadcast station 202 from which the program is broadcast, "year", "month", and "date" indicative of a program broadcast date, "start" indicative of program broadcast start time, "end" indicative of program broadcast end time, and "program-title" indicative of program title. For example, if the broadcast station 202 is "○× Broadcast", it is written as "station:○× Broadcast"; if the broadcast date is October 10, 2000, it is written as "year:2000", "month:10", and "date:10"; if the broadcast start time is 8:30 a.m., it is written as "start:08:30"; if the

broadcast end time is 9:00 p.m., it is written as "end:09:00"; and if the title is "○△ Series Drama", it is written as "program-title: ○△ Series Drama".

[0573]

Also, "program-title" may be followed by a major performer such as "○moto △ma", "△chi ×○ta", or "×tsu ○nosuke" for example.

[0574]

Moreover, each program preset recording setting script has a predetermined URL list which allows the terminal apparatus 2 to obtain the program-associated information associated with the above-mentioned programs via the network 207 as shown in the URL list writing area 20b.

[0575]

The URL showing the location of the program-associated information associated with the program on the network 207 is displayed on the display section 2a of the terminal apparatus 2 through the URL display browser at an appropriate location in program being viewed by the user (in an appropriate time zone) by a URL list defined by predetermined tags attached to the program preset recording setting script shown in FIG. 70.

[0576]

The following describes the URL list writing area 20b defined by the predetermined tags attached to the program preset recording setting script.

[0577]

Tag "<body>" indicates that the URL list writing area 20b is defined after this tag. Tag "<body>" is paired with a tag "</body>" to be described later, which ends the definition of the URL list writing area 20b.

[0578]

Tag "<wait time>" specifies a wait time until a first URL list is displayed in the URL display window. For example, "<wait time 00:00:01:00>" indicates that the first URL is displayed 1 minute after the program start time.

[0579]

Tag "<group>" is paired with tag "</group>" to group the URLs to be displayed in the URL display window at the same time. Tag "<group>" starts grouping and tag "</group>" ends grouping.

[0580]

Tag "<start~ length~>" defines each individual piece of program-associated information, which is immediately followed by an URL indicative of the location of the program-associated information. "start" is

immediately followed by a relative display start time from the start of the program to be displayed in the URL display window for displaying program-associated information. "length" is immediately followed by a length of time in which the URL indicative of the location of program-associated information is kept displayed in the URL window. For example, tag "<start~ length~>" is used as "<start 00:00:01:00 length 00:00:01:00>http://www. ○×.or.jp/pr/bangumi/asadra/asadra1.htm" for example. The URL indicated by this tag is displayed in the URL display browser 1 minute after the program start time and kept displayed for 1 minute.

[0581]

If there are two or more URLs to be displayed in the URL display browser in a same time zone, these plural URLs can be displayed in the same time zone by use of the above-mentioned tags "<group>" and "</group>" as shown below.

<group>
<start 00:00:01:00 length 00:00:01:00>http://www. ○×.or.jp/pr/bangumi/asadra/asadra1.htm
<start 00:00:01:00 length 00:00:01:00>http://www. ○×.or.jp/pr/bangumi/asadra/asadra2.htm
</group>

[0582]

Tag "<start 00:00:02:00 length 00:00:10:00>http://www. ○×.or.jp/pr/bangumi/asadra/asadra3.htm" indicates that URL "http://www. ○×.or.jp/pr/bangumi/asadra/asadra3.htm" is displayed in the URL display browser 2 minutes after the program start time for a length of 10 minutes. Tag "<start 00:00:12:00 length 00:00:05:00>http://www. ○×.or.jp/pr/bangumi/asadra/asadra4.htm" indicates that URL "http://www. ○×.or.jp/pr/bangumi/asadra/asadra4.htm" is displayed 12 minutes after the program start time for a length of 5 minutes. Tag "<start 00:00:17:00 length 00:00:05:00>http://www. ○×.or.jp/pr/bangumi/asadra/asadra5.htm" indicates that URL "http://www. ○×.or.jp/pr/bangumi/asadra/asadra5.htm" is displayed in the URL display browser 17 minutes after the program start time for a lenght of 5 minutes. Tag "<start 00:00:22:00 length 00:00:05:00>http://www. ○×.or.jp/pr/bangumi/asadra/asadra6.htm" indicates that URL "http://www. ○×.or.jp/pr/bangumi/asadra/asadra6.htm" is displayed in the URL display browser 22 minutes after the program start time for a length of 5 minutes.

[0583]

The user checks the URL displayed on the display

section 2a of the terminal apparatus 2 to reference the associated information of a desired program.

[0584]

It should be noted that a program-associated information script generated in the on-air mode has the same configuration of the above-mentioned program preset recording setting script. However, the program information writing area 20a is handled as program information, not used for program preset recording setting script generation.

[0585]

The following describes operations of recording a program to a recording medium 4 in the preset recording mode, reproducing the recorded program, and obtaining the program-associated information of this program in the program-associated information providing system 201 with reference to the flowchart shown in FIG. 71.

[0586]

In step S501, the user sets the preset recording of a desired predetermined program from the input section, not shown, of the terminal apparatus 2.

[0587]

To set the preset recording of a program, the user accesses the program-associated information providing

apparatus 203 via the network 207 to download a program guide in which all programs to be broadcast by the broadcast station 202 are organized by channel from the database 203a, for example. Checking the downloaded program guide, the user selects a desired program to be set for preset recording and inputs a command for generating the above-mentioned program preset recording setting script. For example, this program preset recording setting script is as shown in FIG. 70 and has the program information writing area 20a written with a script providing a control command for program preset recording and the URL list writing area 20b written with a script providing a control command for providing the associated information of a program specified by the tag.

[0588]

Each program box in the program guide downloaded to the terminal apparatus 2 has "Preset" button for generating a script for program preset recording setting in accordance with the user's check. When the user checks this "Preset" button, the information thereof is transmitted to the program-associated information providing apparatus 203 via the network 207. In response, the program-associated information providing apparatus 203 generates a program preset recording setting script

for setting the preset recording of that program.

[0589]

In step S502, the program-associated information providing apparatus 203 transmits the program preset recording setting script generated upon request by the terminal apparatus 2 to the terminal apparatus 2 via the network 207.

[0590]

In step S503, the controller, not shown, of the terminal apparatus 2 passes the program preset recording setting script received from the program-associated information providing apparatus 203 to preset recording control software which controls the preset recording of the program in accordance with the program preset recording setting script stored in the storage section, not shown, of the terminal apparatus 2.

[0591]

In step S504, the preset recording control software performs channel setting on the basis of the program information written in the program information writing area 20a of the received program preset recording setting script so as to record the program to a recording medium and generates a control signal for operating the recording section, not shown, of the terminal apparatus 2

or the recording apparatus 205 at a predetermined time. In accordance with the generated control signal, the controller of the terminal apparatus 2 controls its recording section or the recording apparatus 205 to record the program written in the program preset recording setting script to the recording medium.

[0592]

At this moment, the controller of the terminal apparatus 2 records the program to the recording medium and, at the same time, stores, as a URL list file, the URL list writing area 20b specified by the tag information attached to the program preset recording setting script into a directory in which a program recording file is also contained, for example.

[0593]

In step S505, the user reproduces, at any desired time, the program set for preset recording and recorded to the recording medium. The controller of the terminal apparatus 2 controls the reproducing section, not shown, so as to reproduce the program from the recording medium as directed by the user and displays the reproduced program on the display section 2a.

[0594]

The following details the reproduction processing

of step S505 of FIG. 71 with reference to the flowchart of FIG. 72.

[0595]

In step S511, the user inputs a request for reproducing a program from the recording medium 4 at the operation input section, not shown, of the terminal apparatus 2.

[0596]

In step S512, in accordance with the request inputted at the operation input section, the controller of the terminal apparatus 2 not shown retrieves a program file and a URL list file recorded on the same directory on the recording medium 4 and transmits these files to the reproducing section of the terminal apparatus 2 not shown.

[0597]

In step S513, when the reproducing section receives the program file and the URL list file, the controller starts the program display browser and the URL display browser. Then, the controller of the terminal apparatus 2 not shown stores each URL listed in the URL list file, time (ST) indicated by "start" and time (LT) indicated by "length" into a predetermined queue in the storage section of the terminal apparatus 2 not shown for each

URL sequentially.

[0598]

In step S514, the reproducing section of the terminal apparatus 2 not shown reproduces the program file under the control of the controller of terminal apparatus 2 not shown. The controller of the terminal apparatus 2 controls the reproducing operation of the program file in the reproducing section and, at the same time, starts its incorporated timer to manage program reproduction time T, a time at which the URL is displayed on the URL display browser, and a time at which the display of the URL display browser is ended.

[0599]

In step S515, the controller of the terminal apparatus 2 determines whether ST of the URL stored in the queue matches program file reproduction time T. If it is found that ST of the URL stored in the queue matches program file reproduction time T, the procedure goes to step S516; otherwise, the status is held until a match is found. It should be noted that the process in step S515 is repeated until there is no more URL in the queue.

[0600]

In step S516, the controller of the terminal apparatus 2 passes the URL having URL display start time

ST to the URL display browser.

[0601]

The URL display browser displays the URL received from the controller. The URL displayed in the URL display browser is linked with the program-associated information stored in the program-associated information providing server 206 on the network 207. When the user checks this URL with a mouse for example, the program-associated information is displayed in the program information display browser.

[0602]

In step S517, the controller of the terminal apparatus 2 determines whether the URL has been accessed by the user. If the URL is found accessed, the procedure goes to step S518; otherwise, the procedure goes to step S519.

[0603]

In step S518, the terminal apparatus 2 downloads the program-associated information at the accessed URL on the network 207 in accordance with the access by the user and displays the downloaded program-associated information in the program information display browser.

[0604]

In step S519, the controller of the terminal

apparatus 2 determines whether a sum of URL display start time ST and URL display length of time LT of the URL stored in the queue matches program file reproduction time T. The sum of URL display start time ST and URL display time LT indicates a URL display end time. If the sum of URL display start time ST and URL display time LT matches program file reproduction time T, the display of this URL ends. If the sum of URL display start time ST and URL display time LT matches program file reproduction time T, the procedure goes to step S520; otherwise, the procedure goes to step S516.

[0605]

In step S520, the controller of the terminal apparatus 2 ends the display of the URL which is displayed in the URL display browser and has reached its display end time.

[0606]

In step S521, the controller of the terminal apparatus 2 ends the reproducing operation of the reproducing section upon the end of the program file reproducing time and closes the program display browser.

[0607]

As described, when reproducing a program from the recording medium 4 in accordance with the program preset

recording setting script, the program-associated information providing system 201 can display, along the URL list, the URL indicative of the location of the program-associated information of the program to be reproduced.

[0608]

The following describes an operation of displaying program-associated information by the terminal apparatus 2 in the on-air mode of the program-associated information providing system 201 with reference to the flowchart shown in FIG. 73.

[0609]

In step S531, the user selects a predetermined desired program at the input section of the terminal apparatus 2 not shown.

[0610]

To select a desired program, the user accesses the program-associated information providing apparatus 203 via the network 207 and download a program guide arranged with all programs to be broadcast by the broadcast station 202 for each channel on a time-dependent manner for example. Further, checking the downloaded program guide, the user selects a program to be viewed and inputs the selection.

[0611]

Each program box in the program guide downloaded to the terminal apparatus 2 has "View" button for allowing the user to view that desired program to be broadcast from the broadcast station 202 in accordance with the user's check. When the user checks "View" button, the check is transmitted to the program-associated information providing apparatus 203 via the network 207. In response, the program-associated information providing apparatus 203 allows the terminal apparatus 2 to receive the program of which "View" button has been checked by the user. To be more specific, if the user-specified program is for pay, the program-associated information providing apparatus 203 allows the terminal apparatus 2 to decrypt the encrypted program.

[0612]

In step S532, the program-associated information providing apparatus 203 generates a program-associated information script having a list of URLs indicate of the locations of program-associated information on the network 207 of the programs to be broadcast from the broadcast station 202 and transmits the generated program-associated information script to the terminal apparatus 2 via the network 207. For example, this

program-associated information script is as shown in FIG. 70 having the program information writing area 20a writing the program information and the URL list writing area 20b writing the script to be used as a control command for providing tag-specified program-associated information.

[0613]

In step S533, the terminal apparatus 2 receives the program-associated information script via the network 207. The controller of the terminal apparatus 2 adds ST indicative of the display start time of the URL written in the URL list writing area 20b of the script to PT at which the program started to obtain a URL display start time (hereafter referred to as UST). Further, the controller performs time conversion processing for obtaining a URL display end time (hereafter referred to as UET) by adding a URL display time to the obtained UST. This time conversion processing is performed on all URLs listed in the script, obtaining display start time UST and display end time UET corresponding to real time RT.

[0614]

After obtaining UST and UET, the controller of the terminal apparatus 2 transmits the obtained UST and UET along with the URL list to the reproducing section of the

terminal apparatus 2 not shown and, at the same time, starts the URL display browser to display the URL on the display section 2a of the terminal apparatus 2. Also, the controller of the terminal apparatus 2 stores the URL list transmitted to the reproducing section and time-converted UST and UET into a predetermined queue in the storage section of the terminal apparatus 2 not shown.

[0615]

In step S534, the controller of the terminal apparatus 2 takes one of the URLs from the queue and compares UST of this URL with real time RT. If a match is found, it indicates that RT is the time for displaying this URL in the URL display browser. If a match is found, the procedure goes to step S535; otherwise, the procedure returns to step S534. It should be noted that the process of step S534 is repeated until there is no more URL in the queue.

In step S535, the controller of the terminal apparatus 2 passes the URL having URL display start time UST to the URL display browser in accordance with the match of the real time RT and UST. The URL display browser displays the URL received from the controller.

[0616]

The URL displayed in the URL display browser is

linked with the program-associated information stored in the program-associated information providing server 206 on the network 207. When the user checks the URL with a mouse for example, the program-associated information is displayed in the program information display browser.

[0617]

In step S536, the controller of the terminal apparatus 2 determines whether the URL has been accessed by the user. If the URL is found accessed, the procedure goes to step S537; otherwise, the procedure goes to step S538.

[0618]

In step S537, the terminal apparatus 2 downloads the program-associated information in the URL on the network 207 and displays the downloaded program-associated information in the program information display browser in accordance with the access by the user.

[0619]

In step S538, the controller of the terminal apparatus 2 compares URL display end time UET of the URL stored in the queue with real time RT. If real time RT matches with URL display end time UET of the URL stored in the queue computed by the time conversion processing in step S533, it indicates that the display time of the

URL ends. If a match is found, the procedure goes to step S539; otherwise, the procedure returns to step S535.

[0620]

In step S539, the controller of the terminal apparatus 2 ends the display of the URL displayed in the URL display browser which has reached the end of the display time.

[0621]

In step S540, the controller of the terminal apparatus 2 closes the program display browser in response to the end of the broadcasting of the program from the broadcast station 202.

[0622]

As described, the terminal apparatus 2 can obtain the program-associated information during broadcasting of a program by receiving a URL indicative of the location on the network 207 of the program-associated information of the program to be broadcast from the broadcast station 202 as a script from the program-associated information providing apparatus 203, computing URL display start time and URL display end time by performing time conversion on the URL display start time and URL display time written in the script, and displaying the URL in the URL display browser on the basis of the computed URL display start

and end times.

[0623]

Further, as described with reference to the flowchart shown in FIG. 73, the program-associated information can be provided realtime, thereby allowing the present invention to be applicable to a VOD (Video On Demand) system which allows the user to view desired programs at any desired time instead of specifying the broadcasting time. In the VOD system, when the user selects a desired program and the processes of steps S521 through S530 are executed, the user can obtain realtime the URL information containing the program-associated information on the network 207, thereby obtaining the desired program-associated information at the viewing of the program.

[0624]

The program-associated information providing apparatus 203 of the program-associated information providing system 201, when generating a program preset recording setting script and a program-associated information script in the preset recording mode and the on-air mode, can write the URLs to be listed in the URL list writing area 20b as demanded from the program-associated information providing server 206.

[0625]

For example, if the program-associated information providing server 206 is operated by an organization performing sale business and this organization wants to provide predetermined products to users via the terminal apparatus 2, the products can be advertised by paying the fee to the program-associated information providing apparatus 203 to have it list the URLs in the URL list writing area 20b indicative of the locations of the information about these products. Since these products are strongly associated with programs in which they are advertised, the possibility for the user viewing the programs to begin to take an interest in these products significantly increases.

[0626]

Since the program-associated information providing apparatus 203 manages the user information, strategic advertisements can be published for a particular patron base targeted by the program-associated information providing server 6. The program-associated information providing apparatus 203 can collect the advertisement rate derived from the URL placement from the program-associated information providing server 206 and allot the collected fee the operating fund of the program-

associated information providing system 201 to discount or make free of charge the system usage fee to be paid by the terminal apparatus 2, thereby increasing the number of subscribers of the terminal apparatus 2 to the program-associated information providing system 201, which in turn enhances the advertisement effects by the program-associated information providing server 206.

[0627]

On the other hand, if the user finds a desired product in a URL displayed by the program-associated information providing apparatus 203 via the network 207, the user can easily follow the buying procedure directly with the program-associated information providing server 206 by accessing the URL.

[0628]

It should be noted that, if a program broadcast from the broadcast station 202 is a hit program and many users are viewing this program realtime, the number of accesses to the URL providing the program-associated information of that program extremely increases, thereby sometimes making the network 207 congested. If the network congestion can be predicted as with the above-mentioned case, the congestion can be avoided by attaching a comment specifying different access times for

different users to each URL indicative of the location of the program-associated information to be displayed in the program-associated information display browser, thereby prompting each user to access that URL at the specified time.

[0629]

As described, in the program-associated information providing system 201, the program-associated information providing apparatus 203 generates a program preset recording setting script upon request by the terminal apparatus 2 in the preset recording mode and transmits the generated script to the terminal apparatus 2 via the network 207 to perform the setting of preset recording. Also, the program-associated information providing apparatus 203 may generate a program preset recording setting script upon request from any of the mobile terminal apparatuses 42a, 42b, and 42c connected to the network 207 in the program-associated information providing system 201 as shown in FIG. 74 and transmit via the network 207 the generated script to the terminal apparatus 2 for preset recording setting.

[0630]

In the system configuration shown in FIG. 74, a program preset recording setting script is generated in

the same manner as described with reference to FIGS. 28 through 68.

[0631]

[Effects of the Invention]

As described and according to the invention, there is provided a server operational expenses collecting method for a server which transmits via the Internet an electronic program guide to a terminal apparatus operated by a user, the above-mentioned server generating customer analysis information on the basis of personal information of the user inputted from the terminal apparatus and program viewing log information about a program viewed by the user on the terminal apparatus; generating a second electronic program guide by reorganizing a first electronic program guide in accordance with the preference of the user on the basis of the generated customer analysis information; providing the generated customer analysis information to an advertiser who practices an advertising campaign to the terminal apparatus; and in response to the provision of the customer analysis information to the advertiser, collecting the expenses, in a predetermined amount, for the provision of the customer analysis information from the advertiser. Consequently, the novel constitution can

provide new services associated with the electronic program guide by the server and obtain server operating expenses.

[0632]

As described and according to the invention, there is provided a server operational expenses collecting method for a server which transmits via the Internet an electronic program guide to a terminal apparatus operated by a user, the above-mentioned server generating a second electronic program guide by reorganizing a first electronic program guide in accordance with the preference of the user; generating a third electronic program guide obtained by inserting an advertisement program into the second electronic program guide; in response to a command issued by the user from the terminal apparatus via the Internet, transmitting one of the second electronic program guide and the third electronic program guide; and collecting an advertisement program insertion reject charge in a predetermined amount in accordance with the rejection of inserting the advertisement program from the user who requested the reception of the second electronic program guide. Consequently, the novel constitution can provide new services associated with the electronic program guide by

the server and obtain server operating expenses.

[0633]

As described and according to the invention, there is provided a server operational expenses collecting method for a server which transmits via the Internet an electronic program guide to a terminal apparatus operated by a user, the above-mentioned server generating a second electronic program guide by reorganizing a first electronic program guide in accordance with the preference of the user; setting preset recording of a program listed in the second electronic program guide to the terminal apparatus via the Internet; and in accordance with the setting of preset recording of the program, collecting preset recording setting expenses in a predetermined amount from the user. Consequently, the novel constitution can provide new services associated with the electronic program guide by the server and obtain server operating expenses.

[0634]

As described and according to the invention, there is provided a server operational expenses collecting method for a server which transmits via the Internet an electronic program guide to a terminal apparatus operated by a user, the above-mentioned server generating a second

electronic program guide by reorganizing a first electronic program guide in accordance with the preference of the user; generating a third electronic program guide obtained by inserting an advertisement program into the generated second electronic program guide; in response to a command issued by the user from the terminal apparatus via the Internet, setting preset recording of a program listed in one of the second electronic program guide and the third electronic program guide to the terminal apparatus; and collecting an advertisement program insertion reject charge in a predetermined amount in accordance with the rejection of inserting the advertisement program from the user who requested the setting of preset recording of the program listed in the second electronic program guide. Consequently, the novel constitution can provide new services associated with the electronic program guide by the server and obtain server operating expenses.

[0635]

As described and according to the invention, there is provided a server operational expenses collecting method for a server which transmits via the Internet an electronic program guide to a mobile terminal apparatus operated by a user wherein: the above-mentioned user sets

via the Internet the preset recording of a program listed in the electronic program guide from the mobile terminal to a remote terminal apparatus; and the above-mentioned server, in response to the setting of preset recording of the program, collects a predetermined preset recording setting fee from the user. Consequently, the novel constitution can provide new services associated with the electronic program guide by the server and obtain server operating expenses.

[0636]

As described and according to the invention, there is provided a server operational expenses collecting method for a server which transmits via the Internet an electronic program guide to a mobile terminal apparatus operated by a user, the above-mentioned server generating a second electronic program guide by inserting an advertisement program into a first electronic program guide; in response to a command issued by the user from the mobile terminal apparatus via the Internet, setting the preset recording of a program listed in one of the first electronic program guide and the second electronic program guide to a terminal apparatus; and collecting an advertisement program insertion reject charge in a predetermined amount in accordance with the rejection of

inserting the advertisement program from the user who requested the setting of preset recording of the program listed in the first electronic program guide. Consequently, the novel constitution can provide new services associated with the electronic program guide by the server and obtain server operating expenses.

[0637]

As described and according to the invention, there is provided a server operational expenses collecting method for a server which transmits via the Internet an electronic program guide to a mobile terminal apparatus operated by a user, the above-mentioned server generating a second electronic program guide by reorganizing a first electronic program guide in accordance with the preference of the user; generating a third electronic program guide by inserting an advertisement program into the generated second electronic program guide; in response to a command issued by the user from the mobile terminal apparatus via the Internet, setting the preset recording of a program listed in one of the second electronic program guide and the third electronic program guide to a terminal apparatus; and collecting an advertisement program insertion reject charge in a predetermined amount in accordance with the rejection of

inserting the advertisement program from the user who requested the setting of preset recording of the program listed in the second electronic program guide. Consequently, the novel constitution can provide new services associated with the electronic program guide by the server and obtain server operating expenses.

[0638]

As described and according to the invention, there is provided a server operational expenses collecting method for a server which transmits via the Internet an electronic program guide to a terminal apparatus operated by a user, the above-mentioned server, in response to displaying, on the predetermined spot, an address indicative of a location on the Internet of program-associated information, which is information associated with a program listed in the electronic program guide, collecting a predetermined address placement fee from an advertiser who provides the program-associated information and practices an advertisement campaign to the terminal apparatus. Consequently, the novel constitution can provide new services associated with the electronic program guide by the server and obtain server operating expenses.

[Brief Description of the Drawings]

[FIG. 1]

FIG. 1 is a schematic diagram illustrating an exemplary configuration of a program service providing apparatus practiced as one embodiment of the invention.

[FIG. 2]

FIG. 2 is a schematic diagram illustrating an exemplary configuration of a virtual program guide providing system practiced as one embodiment of the invention.

[FIG. 3]

FIG. 3 illustrates program viewing tendency information in the above-mentioned virtual program guide providing system.

[FIG. 4]

FIG. 4 is a first flowchart describing a virtual program guide generating operation in the above-mentioned virtual program guide providing system.

[FIG. 5]

FIG. 5 is a second flowchart describing the above-mentioned virtual program guide generating operation in the above-mentioned virtual program guide providing system.

[FIG. 6]

FIG. 6 is a third flowchart describing the above-

mentioned virtual program guide generating operation in the above-mentioned virtual program guide providing system.

[FIG. 7]

FIG. 7 is a fourth flowchart describing the above-mentioned virtual program guide generating operation in the above-mentioned virtual program guide providing system.

[FIG. 8]

FIG. 8 is a fifth flowchart describing the above-mentioned virtual program guide generating operation in the above-mentioned virtual program guide providing system.

[FIG. 9]

FIG. 9 is a sixth flowchart describing the above-mentioned virtual program guide generating operation in the above-mentioned virtual program guide providing system.

[FIG. 10]

FIG. 10 is a seventh flowchart describing the above-mentioned virtual program guide generating operation in the above-mentioned virtual program guide providing system.

[FIG. 11]

FIG. 11 is an eighth flowchart describing the above-mentioned virtual program guide generating operation in the above-mentioned virtual program guide providing system.

[FIG. 12]

FIG. 12 is a ninth flowchart describing the above-mentioned virtual program guide generating operation in the above-mentioned virtual program guide providing system.

[FIG. 13]

FIG. 13 illustrates a process of arranging program information on a virtual program guide in the above-mentioned virtual program guide providing system.

[FIG. 14]

FIG. 14 illustrates another process of arranging program information on the virtual program guide in the above-mentioned virtual program guide providing system.

[FIG. 15]

FIG. 15 illustrates still another process of arranging program information on the virtual program guide in the above-mentioned virtual program guide providing system.

[FIG. 16]

FIG. 16 illustrates yet another process of

arranging program information on the virtual program guide in the above-mentioned virtual program guide providing system.

[FIG. 17]

FIG. 17 illustrates a different process of arranging program information on the virtual program guide in the above-mentioned virtual program guide providing system.

[FIG. 18]

FIG. 18 illustrates the virtual program guide generated in the above-mentioned virtual program guide providing system.

[FIG. 19]

FIG. 19 is a schematic diagram illustrating an exemplary configuration of a program recording system practiced as one embodiment of the invention.

[FIG. 20]

FIG. 20 is a flowchart describing a program preset recording setting script in the above-mentioned program recording system.

[FIG. 21]

FIG. 21 illustrates a program guide for ordinary channels in the above-mentioned program recording system.

[FIG. 22]

FIG. 22 illustrates one example of how to cancel programs organized in virtual channels in the above-mentioned program recording system.

[FIG. 23]

FIG. 23 illustrates one example of how to organize programs organized in ordinary channels into virtual channels in the above-mentioned program recording system.

[FIG. 24]

FIG. 24 illustrates a program guide listing preference channels in the above-mentioned program recording system.

[FIG. 25]

FIG. 25 illustrates one example of how to select a recording apparatus on which programs are to be recorded in the above-mentioned program recording system.

[FIG. 26]

FIG. 26 illustrates one example of a program preset recording setting script by program in the above-mentioned program recording system.

[FIG. 27]

FIG. 27 illustrates one example of a program preset recording setting script on a bulk basis in the above-mentioned program recording system.

[FIG. 28]

FIG. 28 is a schematic diagram illustrating an exemplary configuration of a program preset recording system practiced as a first embodiment of the invention.

[FIG. 29]

FIG. 29 is a first flowchart describing a program preset recording setting script generating operation in the above-mentioned program preset recording system.

[FIG. 30]

FIG. 30 is a second flowchart describing the above-mentioned program preset recording setting script generating operation in the above-mentioned program preset recording system.

[FIG. 31]

FIG. 31 illustrates a program guide which is provided to a mobile terminal apparatus via a Web browser in the above-mentioned program preset recording system.

[FIG. 32]

FIG. 32 illustrates an exemplary screen for preset recording setting confirmation which is presented to the mobile terminal apparatus via the Web browser in the above-mentioned program preset recording system.

[FIG. 33]

FIG. 33 illustrates an exemplary screen for selecting a recording apparatus on which a program to be

presented to the mobile terminal apparatus via the Web browser is recorded in the above-mentioned program preset recording system.

[FIG. 34]

FIG. 34 illustrates one example of how an icon of a recording apparatus selected for preset recording setting is displayed in a program guide which is presented to the mobile terminal apparatus via the Web browser in the above-mentioned program preset recording system.

[FIG. 35]

FIG. 35 illustrates an exemplary screen for selecting a program of which preset recording setting is to be canceled from among programs preset for recording setting which are to be presented to the mobile terminal apparatus via the Web browser in the above-mentioned program preset recording system.

[FIG. 36]

FIG. 36 is a third flowchart describing the above-mentioned program preset recording setting script generating operation in the above-mentioned program preset recording system.

[FIG. 37]

FIG. 37 illustrates an exemplary electronic mail message attached with a URL for program preset recording

setting, the URL being transmitted from a program information providing apparatus to a mobile terminal apparatus, in the above-mentioned program preset recording system.

[FIG. 38]

FIG. 38 illustrates an exemplary electronic mail message attached with a URL for moving to a mode for canceling program preset recording setting, the URL being transmitted from the program information providing apparatus to the mobile terminal apparatus, in the above-mentioned program preset recording system.

[FIG. 39]

FIG. 39 is a fourth flowchart describing the above-mentioned program preset recording setting script generating operation in the above-mentioned program preset recording system.

[FIG. 40]

FIG. 40 illustrates an exemplary electronic mail message attached with a URL for moving to a mode for changing recording apparatuses on which programs are to be recorded, the URL being transmitted from the program information providing apparatus to the mobile terminal apparatus, in the above-mentioned program preset recording system.

[FIG. 41]

FIG. 41 illustrates an exemplary electronic mail message attached with a URL for selecting a program for which its recording apparatus is to be changed, the URL being transmitted from the program information providing apparatus to the mobile terminal apparatus, in the above-mentioned program preset recording system.

[FIG. 42]

FIG. 42 illustrates an exemplary electronic mail message attached with a URL for changing recording apparatuses on which a program is to be recorded, the URL being transmitted from the program information providing apparatus to the mobile terminal apparatus, in the above-mentioned program preset recording system.

[FIG. 43]

FIG. 43 illustrates an exemplary electronic mail message attached with a URL for moving to a mode for canceling program preset recording setting, the URL being transmitted from the program information providing apparatus to the mobile terminal apparatus, in the above-mentioned program preset recording system.

[FIG. 44]

FIG. 44 illustrates an exemplary electronic mail message attached with a URL for selecting a program of

which preset recording setting is to be canceled, the URL being transmitted from the program information providing apparatus to the mobile terminal apparatus, in the above-mentioned program preset recording system.

[FIG. 45]

FIG. 45 illustrates an exemplary electronic mail message for telling that the preset recording setting has been canceled, the mail message being transmitted from the program information providing apparatus to the mobile terminal apparatus in the above-mentioned program preset recording system.

[FIG. 46]

FIG. 46 is a schematic diagram illustrating a program preset recording system practiced as a second embodiment of the invention.

[FIG. 47]

FIG. 47 is a flowchart describing an electronic mail message transmission operation from a server apparatus to a mobile terminal apparatus in the above-mentioned program preset recording system.

[FIG. 48]

FIG. 48 illustrates an exemplary electronic mail message received at the mobile terminal apparatus in the above-mentioned program preset recording system.

[FIG. 49]

FIG. 49 is a flowchart describing an operation of inputting a password from the mobile terminal apparatus in the above-mentioned program preset recording system.

[FIG. 50]

FIG. 50 illustrates a password input prompting screen shown on the display section of the mobile terminal apparatus in the above-mentioned program preset recording system.

[FIG. 51]

FIG. 51 is a flowchart describing an operation in which a server apparatus 120 authenticates a password inputted in the mobile terminal apparatus in the above-mentioned program preset recording system.

[FIG. 52]

FIG. 52 illustrates a menu selection screen shown on the display section of the mobile terminal apparatus in the above-mentioned program preset recording system.

[FIG. 53]

FIG. 53 is a flowchart describing an operation to be performed by the server apparatus when executing a menu selected by the mobile terminal apparatus in the above-mentioned program preset recording system.

[FIG. 54]

FIG. 54 illustrates an exemplary program guide to be shown on the display section of the mobile terminal apparatus in the above-mentioned program preset recording system.

[FIG. 55]

FIG. 55 illustrates another exemplary program guide to be shown on the display section of the mobile terminal apparatus in the above-mentioned program preset recording system.

[FIG. 56]

FIG. 56 illustrates still another exemplary program guide to be shown on the display section of the mobile terminal apparatus in the above-mentioned program preset recording system.

[FIG. 57]

FIG. 57 illustrates an exemplary screen to be shown on the mobile terminal apparatus when determining the setting of program preset recording in the above-mentioned program preset recording system.

[FIG. 58]

FIG. 58 illustrates an exemplary list of programs which are set for preset recording, the list being shown on the display section of the mobile terminal apparatus in the above-mentioned program preset recording system.

[FIG. 59]

FIG. 59 illustrates an exemplary screen to be shown on the display section of the mobile terminal apparatus when canceling the setting of program preset recording in the above-mentioned program preset recording system.

[FIG. 60]

FIG. 60 is a flowchart describing an operation of the server apparatus when generating an operation script in the above-mentioned program preset recording system.

[FIG. 61]

FIG. 61 is a first flowchart describing an operation of the terminal apparatus to be executed when downloading the operation script generated by the server apparatus in the above-mentioned program preset recording system.

[FIG. 62]

FIG. 62 is a second flowchart describing the operation of the terminal apparatus to be executed when downloading the operation script generated by the server apparatus in the above-mentioned program preset recording system.

[FIG. 63]

FIG. 63 illustrates the operation script generated by the server apparatus in the above-mentioned program

preset recording system.

[FIG. 64]

FIG. 64 illustrates the operation script generated by the server apparatus in the above-mentioned program preset recording system.

[FIG. 65]

FIG. 65 is a third flowchart describing the operation of the terminal apparatus to be executed when downloading the operation script generated by the server apparatus in the above-mentioned program preset recording system.

[FIG. 66]

FIG. 66 is a flowchart describing an operation of the server apparatus to be executed when receiving a result of the downloading of the operation script transmitted from the terminal apparatus in the above-mentioned program preset recording system.

[FIG. 67]

FIG. 67 is a flowchart describing an operation of the server apparatus to be executed when receiving the information about a program preset for recording setting, the information being transmitted from the terminal apparatus, in the above-mentioned program preset recording system.

[FIG. 68]

FIG. 68 is a flowchart describing an operation of the server apparatus to be executed when receiving the information about a program of which recording to a recording medium is completed, the information being transmitted from the terminal apparatus, in the above-mentioned program preset recording system.

[FIG. 69]

FIG. 69 is a schematic diagram illustrating an exemplary configuration of a program-associated information providing system practiced as one embodiment of the invention.

[FIG. 70]

FIG. 70 illustrates an exemplary program preset recording setting script transmitted from a program-associated information providing apparatus in the above-mentioned program associated-information providing system.

[FIG. 71]

FIG. 71 is a flowchart describing operations of presetting the recording of a program, recording the program, and reproducing the recorded program in the above-mentioned program-associated information providing system.

[FIG. 72]

FIG. 72 is a flowchart describing an operation of displaying a program-associated information URL in the above-mentioned program-associated information providing system.

[FIG. 73]

FIG. 73 is another flowchart describing an operation of displaying a program-associated information URL in the above-mentioned program-associated information providing system.

[FIG. 74]

FIG. 74 is a schematic diagram illustrating an exemplary configuration of the above-mentioned program-associated information providing system with a mobile terminal apparatus added.

[Description of Reference Numerals]

1 Program service providing system, 2 Terminal apparatus, 3 Commissioning broadcast provider, 4 Advertiser, 5 DMC provider, 6 Program service providing apparatus

[Name of Document] Abstract of the Disclosure

[Abstract]

[Object] Obtained are operational expenses for a server which provides an electronic program guide.

[Solving Means] The server 6 generates customer analysis information on the basis of personal information of said user inputted from said terminal apparatus 2 and program viewing log information about a program viewed by said user on said terminal apparatus 2, generates a second electronic program guide by reorganizing a first electronic program guide in accordance with the preference of said user on the basis of the generated customer analysis information, provides said generated customer analysis information to an advertiser 4 who practices an advertising campaign to said terminal apparatus 2, and in response to the provision of said customer analysis information to said advertiser 4, collects the expenses, in a predetermined amount, for the provision of said customer analysis information from said advertiser 4.

[Selected Drawing] FIG. 1

In the drawings:

[FIG. 1]

3: COMMISSIONING BROADCAST PROVIDER

4: ADVERTISER

5: DMC PROVIDER

6: PROGRAM SERVICE PROVIDING APPARATUS

2: TERMINAL APPARATUS

1-A: PROGRAM/ADVERTISEMENT

1-B: ADVERTISEMENT/ADVERTISEMENT COST

1-C: CUSTOMER ANALYSIS INFORMATION

1-D: ADVERTISEMENT COST

1-E: PARTIAL PRODUCT SALES COST

1-F: INFORMATION PROVISION FEE

1-G: EPG PROVISION

1-H: EPG COST

1-I: SERVICE PROVISION

1-J: SERVICE USAGE FEE

1-K: USAGE OF SERVICES

[FIG. 3]

3-A: TITLE LIST

3-B: CATEGORY LIST

3-C: KEYWORD LIST

3-D: TITLE LIST

3-E: CATEGORY LIST

3-F: KEYWORD LIST

3-G: TITLE LIST

3-H: CATEGORY LIST

3-I: KEYWORD LIST

[FIG. 4]

S1: INPUT DATE, START TIME ST, HOURS T, NUMBER OF VIRTUAL CHANNELS, AND POLICY TO BE ARRANGED TO VIRTUAL CHANNEL OF VIRTUAL PROGRAM GUIDE TO BE CREATED

S2: RETRIEVE VARIOUS DATA FROM PREDETERMINED DATABASE

S3: RETRIEVE PROGRAM INFORMATION CORRESPONDING TO INPUTTED DATE AND TIME ZONE FROM DATABASE 11 TO PROVIDE PRIMARY TEMPORARY PROGRAM GROUP

S4: MATCH FOUND BETWEEN PRIMARY TEMPORARY PROGRAM GROUP AND ABSOLUTE VIEWING PROGRAM GROUP?

S5: ORGANIZABLE INTO VIRTUAL CHANNEL?

S6: ARRANGE IN VIRTUAL PROGRAM GUIDE

S7: DELETE PROGRAM ORGANIZED INTO VIRTUAL CHANNEL FROM PRIMARY TEMPORARY PROGRAM GROUP

S8: MATCH FOUND BETWEEN PRIMARY TEMPORARY PROGRAM GROUP AND THIRD PARTY'S ADVERTISEMENT PROGRAM LIST?

S9: ORGANIZABLE INTO VIRTUAL CHANNEL?

S10: ARRANGE IN VIRTUAL PROGRAM GUIDE

S11: DELETE PROGRAM ORGANIZED INTO VIRTUAL CHANNEL FROM PRIMARY TEMPORARY PROGRAM GROUP

[FIG. 5]

S12: OBTAIN TIME FOR ORGANIZATION INTO VIRTUAL CHANNEL AND CALCULATE ORGANIZATION ALLOWABLE TIME FOR EACH LIST CORRESPONDING TO POLICY

S14: EXTRACT PROGRAM GROUP IN RANGE OF H TO H + 1 FROM PRIMARY TEMPORARY PROGRAM GROUP TO PROVIDE SECONDARY TEMPORARY PROGRAM GROUP

S15: TO PREFER USER PROGRAM VIEWING TENDENCY INFORMATION TO GROUP PROGRAM VIEWING TENDENCY INFORMATION?

S16: TO PREFER ORGANIZATION BY TITLE LIST?

S17: MATCH FOUND BETWEEN TITLE LIST OF USER PROGRAM VIEWING TENDENCY INFORMATION AND SECONDARY TEMPORARY PROGRAM GROUP?

S18: ORGANIZATION ALLOWABLE TIME EXCEEDED?

S19: ORGANIZABLE INTO VIRTUAL CHANNEL?

S20: ARRANGE IN VIRTUAL PROGRAM GUIDE

S21: DELETE PROGRAM ORGANIZED INTO VIRTUAL CHANNEL FROM SECONDARY TEMPORARY PROGRAM GROUP

S22: ORGANIZATION BY CATEGORY LIST AND KEYWORD LIST COMPLETED?

S23: TO PREFER ORGANIZATION BY CATEGORY LIST?

[FIG. 6]

S24: TO PREFER ORGANIZATION BY CATEGORY LIST?

S25: MATCH FOUND BETWEEN USER PROGRAM VIEWING TENDENCY

INFORMATION CATEGORY AND SECONDARY TEMPORARY PROGRAM GROUP?

S26: ORGANIZATION ALLOWABLE TIME EXCEEDED?

S27: ORGANIZABLE INTO VIRTUAL CHANNEL?

S28: ARRANGE IN VIRTUAL PROGRAM GUIDE

S29: DELETE PROGRAM ORGANIZED INTO VIRTUAL CHANNEL FROM SECONDARY TEMPORARY PROGRAM GROUP

S30: ORGANIZATION BY KEYWORD LIST AND TITLE LIST COMPLETED?

S31: TO PREFER ORGANIZATION BY KEYWORD LIST?

[FIG. 7]

S32: MATCH FOUND BETWEEN USER PROGRAM VIEWING TENDENCY INFORMATION KEYWORD LIST AND SECONDARY TEMPORARY PROGRAM GROUP?

S33: ORGANIZATION ALLOWABLE TIME EXCEEDED?

S34: ORGANIZABLE INTO VIRTUAL CHANNEL?

S35: ARRANGE IN VIRTUAL PROGRAM GUIDE

S36: DELETE PROGRAM ORGANIZED INTO VIRTUAL CHANNEL FROM SECONDARY TEMPORARY PROGRAM GROUP

S37: ORGANIZATION BY TITLE LIST AND CATEGORY LIST COMPLETED?

S38: TO PREFER ORGANIZATION BY TITLE LIST?

[FIG. 8]

S39: USER PROGRAM VIEWING TENDENCY INFORMATION PREFERRED?

[FIG. 9]

S42: TO PREFER ORGANIZATION BY TITLE LIST?

S43: MATCH FOUND BETWEEN GROUP PROGRAM VIEWING TENDENCY INFORMATION TITLE LIST AND SECONDARY TEMPORARY PROGRAM GROUP?

S44: ORGANIZATION ALLOWABLE TIME EXCEEDED?

S45: ORGANIZABLE INTO VIRTUAL CHANNEL?

S46: ARRANGE IN VIRTUAL PROGRAM GUIDE

S47: DELETE PROGRAM ORGANIZED INTO VIRTUAL CHANNEL FROM SECONDARY TEMPORARY PROGRAM GROUP

S48: ORGANIZATION BY CATEGORY LIST AND KEYWORD LIST COMPLETED?

S49: TO PREFER ORGANIZATION BY CATEGORY LIST?

[FIG. 10]

S50: TO PREFER ORGANIZATION BY CATEGORY LIST?

S51: MATCH FOUND BETWEEN GROUP PROGRAM VIEWING TENDENCY INFORMATION CATEGORY LIST AND SECONDARY TEMPORARY PROGRAM GROUP?

S52: ORGANIZATION ALLOWABLE TIME EXCEEDED?

S53: ORGANIZABLE INTO VIRTUAL CHANNEL?

S54: ARRANGE IN VIRTUAL PROGRAM GUIDE

S55: DELETE PROGRAM ORGANIZED INTO VIRTUAL CHANNEL FROM SECONDARY TEMPORARY PROGRAM GROUP

S56: ORGANIZATION BY KEYWORD LIST AND TITLE LIST

COMPLETED?

S57: TO PREFER ORGANIZATION BY KEYWORD LIST?

[FIG. 11]

S58: MATCH FOUND BETWEEN GROUP PROGRAM VIEWING TENDENCY INFORMATION KEYWORD LIST AND SECONDARY TEMPORARY PROGRAM GROUP?

S59: ORGANIZATION ALLOWABLE TIME EXCEEDED?

S60: ORGANIZABLE INTO VIRTUAL CHANNEL?

S61: ARRANGE IN VIRTUAL PROGRAM GUIDE

S62: DELETE PROGRAM ORGANIZED INTO VIRTUAL CHANNEL FROM SECONDARY TEMPORARY PROGRAM GROUP

S63: ORGANIZATION BY TITLE LIST AND CATEGORY LIST COMPLETED?

S64: TO PREFER ORGANIZATION BY TITLE LIST?

[FIG. 12]

S65: USER PROGRAM VIEWING TENDENCY INFORMATION PREFERRED?

[FIG. 13]

13-A: FILE(F)

13-B: EDIT(E)

13-C: VIEW(V)

13-D: GO(G)

13-E: HELP(H)

13-F: BACK

13-G: NEXT

13-H: HOME

13-I: PRINT

13-J: STOP

13-K: 20:00

13-L: 21:00

13-M: 22:00

13-N: ○○ SCIENCE

EXPLANATION

13-O: LET'S USE DIGITAL VIDEO ○○%

EXPLANATION

13-P: CUTE ANGEL KENT

EXPLANATION

[FIG. 14]

14-A: FILE(F)

14-B: EDIT(E)

14-C: VIEW(V)

14-D: GO(G)

14-E: HELP(H)

14-F: BACK

14-G: NEXT

14-H: HOME

14-I: PRINT

14-J: STOP

14-K: 20:00

14-L: 21:00

14-M: 22:00

14-N: NEWS/STOCK PRICE COMMENTARY

EXPLANATION

14-O: ○○ SCIENCE

EXPLANATION

14-P: LET'S USE DIGITAL VIDEO ○○%

EXPLANATION

14-Q: CUTE ANGEL KENT

EXPLANATION

[FIG. 15]

15-A: FILE(F)

15-B: EDIT(E)

15-C: VIEW(V)

15-D: GO(G)

15-E: HELP(H)

15-F: BACK

15-G: NEXT

15-H: HOME

15-I: PRINT

15-J: STOP

15-K: 20:00

15-L: 21:00

15-M: 22:00

15-N: NEWS/STOCK PRICE COMMENTARY

EXPLANATION

15-O: ○○ SCIENCE

EXPLANATION

15-P: LET'S USE DIGITAL VIDEO ○○%

EXPLANATION

15-Q: CUTE ANGEL KENT

EXPLANATION

15-R: ○○ NEWS

EXPLANATION

15-S: NEWS & SPORTS ◎◎

EXPLANATION

[FIG. 16]

16-A: FILE(F)

16-B: EDIT(E)

16-C: VIEW(V)

16-D: GO(G)

16-E: HELP(H)

16-F: BACK

16-G: NEXT

16-H: HOME

16-I: PRINT

16-J: STOP

16-K: 20:00

16-L: 21:00

16-M: 22:00

16-N: NEWS/STOCK PRICE COMMENTARY

EXPLANATION

16-O: ○○ SCIENCE

EXPLANATION

16-P: LET'S USE DIGITAL VIDEO ○○%

EXPLANATION

16-Q: CUTE ANGEL KENT

EXPLANATION

16-R: ○○ NEWS

EXPLANATION

16-S: NEWS & SPORTS ◎◎

EXPLANATION

16-T: ○○ FEATURING

EXPLANATION

16-U: ×× MUSIC

EXPLANATION

[FIG. 17]

17-A: FILE(F)

17-B: EDIT(E)

17-C: VIEW(V)

17-D: GO(G)

17-E: HELP(H)

17-F: BACK

17-G: NEXT

17-H: HOME

17-I: PRINT

17-J: STOP

17-K: 20:00

17-L: 21:00

17-M: 22:00

17-N: NEWS/STOCK PRICE COMMENTARY

EXPLANATION

17-O: ○○ SCIENCE

EXPLANATION

17-P: LET'S USE DIGITAL VIDEO ○○%

EXPLANATION

17-Q: CUTE ANGEL KENT

EXPLANATION

17-R: ○○ NEWS

EXPLANATION

17-S: NEWS & SPORTS ◎◎

EXPLANATION

17-T: ○○ FEATURING

EXPLANATION

17-U: ×× MUSIC

EXPLANATION

17-V: OLYMPICS □□

EXPLANATION

[FIG. 18]

18-A: FILE(F)

18-B: EDIT(E)

18-C: VIEW(V)

18-D: GO(G)

18-E: HELP(H)

18-F: BACK

18-G: NEXT

18-H: HOME

18-I: PRINT

18-J: STOP

18-K: 20:00

18-L: 21:00

18-M: 22:00

18-N: NEWS/STOCK PRICE COMMENTARY

EXPLANATION

18-O: ○○ SCIENCE

EXPLANATION

18-P: WORLD ○○ SOCCER

EXPLANATION

18-Q: LET'S USE DIGITAL VIDEO ○○%

EXPLANATION

18-R: CUTE ANGEL KENT

EXPLANATION

18-S: ○○ NEWS

EXPLANATION

18-T: NEWS & SPORTS ◎◎

EXPLANATION

18-U: ◎◎ FOREIGN MOVIE THEATER

EXPLANATION

18-V: ○○ FEATURING

EXPLANATION

18-W: RUINS ◎◎ EXPLORATION

EXPLANATION

18-X: BOWLING △△

EXPLANATION

18-Y: ×× MUSIC

EXPLANATION

18-Z: OLYMPICS □□

EXPLANATION

18-A': FRIDAY DRAMA ◎◎

EXPLANATION

18-B': NEWS ◎◎

EXPLANATION

[FIG. 20]

S101: GENERATE AND PRESENT VIRTUAL PROGRAM GUIDE

S102: WHICH DO YOU SELECT, VIRTUAL CHANNEL MODE, PREFERENCE CHANNEL MODE, OR ORDINARY CHANNEL MODE?

20-A: VIRTUAL CHANNEL MODE

20-B: PREFERENCE CHANNEL MODE

20-C: ORDINARY CHANNEL MODE

S103: PRESENT ORDINARY CHANNEL

S104: REPLACE PROGRAMS

S105: PRESENT PREFERENCE CHANNEL

S106: REPLACE PROGRAMS

S107: SELECT RECORDING APPARATUS

S108: WHICH DO YOU SELECT, RECORDING-BY-PROGRAM PRESET RECORDING SETTING SCRIPT OR BULK PRESET RECORDING SETTING SCRIPT?

S109: GENERATE RECORDING-BY-PROGRAM PRESET RECORDING SETTING SCRIPT

S110: GENERATE BULK PRESET RECORDING SETTING SCRIPT

[FIG. 21]

21-A: FILE(F)

21-B: EDIT(E)

21-C: VIEW(V)

21-D: GO(G)

21-E: HELP(H)

21-F: BACK

21-G: NEXT

21-H: HOME

21-I: PRINT

21-J: STOP

21-K: 20:00

21-L: 21:00

21-M: 22:00

21-N: ×× PROFESSIONAL WRESTLING

EXPLANATION

21-O: FRIDAY DRAMA ◎◎

EXPLANATION

21-P: EXPLANATION

21-Q: ○○ FEATURING

EXPLANATION

21-R: ◎◎ FOREIGN MOVIE THEATER

EXPLANATION

21-S: ×× MUSIC

EXPLANATION

21-T: ◎◎ INTRODUCTION

EXPLANATION

21-U: □□ GREAT NATURE

EXPLANATION

21-V: BOWLING △△

EXPLANATION

21-W: CUTE ANGEL KENT

EXPLANATION

21-X: ×× QUIZ

EXPLANATION

21-Y: ○○ THEATER

EXPLANATION

21-Z: ○○ NEWS

EXPLANATION

21-A': OLYMPICS □□

EXPLANATION

21-B': WORLD ○○ SOCCER

EXPLANATION

21-C': (FRENCH MOVIE ◎◎ UNTIL 24:00)

EXPLANATION

21-D': △△ ANGLER

EXPLANATION

21-E': NEWS & SPORTS ◎◎

EXPLANATION

21-F': RUINS ◎◎ EXPLORATION

EXPLANATION

21-G': OVERSEAS TRAVEL ○○ INFORMATION

EXPLANATION

21-H': △△ JAPANESE MOVIE THEATER

EXPLANATION

21-I': LET'S USE DIGITAL VIDEO ○%

EXPLANATION

21-J': NEWS ◎◎

EXPLANATION

21-K': EXPLANATION

21-L': NEW CAR INFORMATION ×× FEATURING

EXPLANATION

21-M': EXPLANATION 22○○ DRAMA

EXPLANATION

21-N': NEWS/STOCK PRICE COMMENTARY

EXPLANATION

21-O': ○○ SCIENCE

EXPLANATION

21-P': △△ THEATER

EXPLANATION

21-Q': YESTERDAY'S ◎◎

EXPLANATION

21-R': △△ CHALLENGE

EXPLANATION

21-S': ◎◎ SWORD

EXPLANATION

21-T': EXPLANATION

21-U': EXPLANATION

[FIG. 22]

22-A: FILE(F)

22-B: EDIT(E)

22-C: VIEW(V)

22-D: GO(G)

22-E: HELP(H)

22-F: BACK

22-G: NEXT

22-H: HOME

22-I: PRINT

22-J: STOP

22-K: 20:00

22-L: 21:00

22-M: 22:00

22-N: NEWS/STOCK PRICE COMMENTARY

EXPLANATION

CANCEL

22-O: ○○ SCIENCE

EXPLANATION

CANCEL

22-P: WORLD ○○ SOCCER

EXPLANATION

CANCEL

22-Q: LET'S USE DIGITAL VIDEO ○○%

EXPLANATION

CANCEL

22-R: CUTE ANGEL KENT

EXPLANATION

CANCEL

22-S: ○○ NEWS

EXPLANATION

CANCEL

22-T: NEWS & SPORTS ◎◎

EXPLANATION

CANCEL

22-U: ◎◎ FOREIGN MOVIE THEATER

EXPLANATION

CANCEL

22-V: ○○ FEATURING

EXPLANATION

CANCEL

22-W: RUINS ◎◎ EXPLORATION

EXPLANATION

CANCEL

22-X: BOWLING △△

EXPLANATION

CANCEL

22-Y: ×× MUSIC

EXPLANATION

CANCEL

22-Z: OLYMPICS □□

EXPLANATION

CANCEL

22-A': FRIDAY DRAMA ◎◎

EXPLANATION

CANCEL

22-B': NEWS ◎◎

EXPLANATION

CANCEL

[FIG. 23]

23-A: FILE(F)

23-B: EDIT(E)

23-C: VIEW(V)

23-D: GO(G)

23-E: HELP(H)

23-F: BACK

23-G: NEXT

23-H: HOME

23-I: PRINT

23-J: STOP

23-K: 20:00

23-L: 21:00

23-M: 22:00

23-N: ×× PROFESSIONAL WRESTLING

EXPLANATION

PRESET

23-O: FRIDAY DRAMA ◎◎

EXPLANATION

PRESET

23-P: EXPLANATION

PRESET

23-Q: ×× MUSIC

EXPLANATION

PRESET

23-R: ◎◎ INTRODUCTION

EXPLANATION

PRESET

23-S: PRESET □□ GREAT NATURE

EXPLANATION

PRESET

23-T: BOWLING △△

EXPLANATION

PRESET

23-U: CUTE ANGEL KENT

EXPLANATION

PRESET

23-V: ○○ NEWS

EXPLANATION

PRESET

23-W: OLYMPICS □□

EXPLANATION

PRESET

23-X: WORLD ○○ SOCCER

EXPLANATION

PRESET

23-Y: (FRENCH MOVIE ◎◎ UNTIL 24:00)

EXPLANATION

PRESET

23-Z: NEWS/STOCK PRICE COMMENTARY

EXPLANATION

PRESET

23-A': ○○ SCIENCE

EXPLANATION

PRESET

23-B': △△ THEATER

EXPLANATION

PRESET

23-C': YESTERDAY'S ◎◎

EXPLANATION

PRESET

[FIG. 24]

24-A: FILE(F)

24-B: EDIT(E)

24-C: VIEW(V)

24-D: GO(G)

24-E: HELP(H)

24-F: BACK

24-G: NEXT

24-H: HOME

24-I: PRINT

24-J: STOP

24-K: 20:00

24-L: 21:00

24-M: 22:00

24-N: ×× PROFESSIONAL WRESTLING

EXPLANATION

24-O: FRIDAY DRAMA ◎◎

EXPLANATION

24-P: EXPLANATION

24-Q: ×× MUSIC

EXPLANATION

24-R: ◎◎ INTRODUCTION

EXPLANATION

24-S: □□ GREAT NATURE

EXPLANATION

24-T: BOWLING △△

EXPLANATION

24-U: CUTE ANGEL KENT

EXPLANATION

24-V: ○○ NEWS

EXPLANATION

24-W: OLYMPICS □□

EXPLANATION

24-X: WORLD ○○ SOCCER

EXPLANATION

24-Y: (FRENCH MOVIE ◎◎ UNTIL 24:00)

EXPLANATION

24-Z: NEWS/STOCK PRICE COMMENTARY

EXPLANATION

24-A': ○○ SCIENCE

EXPLANATION

24-B': △△ THEATER

EXPLANATION

24-C': YESTERDAY'S ◎◎

EXPLANATION

[FIG. 25]

25-A: FILE(F)

25-B: EDIT(E)

25-C: VIEW(V)

25-D: GO(G)

25-E: HELP(H)

25-F: BACK

25-G: NEXT

25-H: RELOAD

25-I: HOME

25-J: SEARCH

25-K: "NEWS/STOCK PRICE COMMENTARY"

25-L: SEPTEMBER 1, 2000 20:00 - 20:30

25-M: TO WHICH DEVICE DO YOU WANT THIS PROGRAM RECORDED?

[FIG. 26]

26-A: START OF PROGRAM PRESET RECORDING SCRIPT:

26-B: COMMAND ID, RECORDING DEVICE ID, INFRA ID, CHANNEL, BROADCAST START TIME, BROADCAST END TIME

26-C: TIME, TITLE 1

26-D: END OF PROGRAM PRESET RECORDING SCRIPT:

26-E: START OF PROGRAM PRESET RECORDING SCRIPT:

26-F: COMMAND ID, RECORDING DEVICE ID, INFRA ID, CHANNEL, BROADCAST START TIME, BROADCAST END TIME

26-G: TIIME, TITLE 2

26-F: END OF PROGRAM PRESET RECORDING SCRIPT:

[FIG. 27]

27-A: START OF PROGRAM PRESET RECORDING SCRIPT:

27-B: RECORDING DEVICE ID 1:

27-C: COMMAND ID, INFRA ID, CHANNEL BROADCAST START TIME,

BROADCAST END TIME, TITLE 11

27-D: COMMAND ID, INFRA ID, CHANNEL, BROADCAST START TIME, BROADCAST END TIME, TITLE 12

27-E: RECORDING DEVICE ID 2:

27-F: COMMAND ID, INFRA ID, CHANNEL, BROADCAST START TIME, BROADCAST END TIME, TITLE 21

27-G: COMMAND ID, INFRA ID, CHANNEL, BROADCAST START TIME, BROADCAST END TIME, TITLE 22

27-H: END OF PROGRAM PRESET RECORDING SCRIPT:

[FIG. 28]

28-A: INTERNET

[FIG. 29]

S201: ACCESS PROGRAM INFORMATION PROVIDING APPARATUS

S202: LOGIN NAME AND PASSWORD CORRECT?

S203: PRESENT PROGRAM GUIDE

S204: TO SET PROGRAM PRESET RECORDING?

S205: DISPLAY PROGRAM PRESET RECORDING SCREEN

S206: TO CHANGE RECORDING APPARATUSES?

S207: CHANGE RECORDING APPARATUSES

S208: TO GENERATE PROGRAM PRESET RECORDING SCRIPT?

S209: GENERATE PROGRAM PRESET RECORDING PROGRAM AND REGISTER IT WITH LOG

[FIG. 30]

S210: ACCUMULATES PROGRAM PRESET RECORDING SCRIPTS FOR

EACH ACCOUNT OF TERMINAL APPARATUS 4

S211: ACCESS TO TERMINAL APPARATUS OR ACCESS FROM TERMINAL APPARATUS?

30-A: ACCESS FROM TERMINAL APPARATUS

30-B: ACCESS TO TERMINAL APPARATUS

S212: ACCESS TERMINAL APPARATUS

S213: ACCESS PROGRAM INFORMATION PROVIDER FROM TERMINAL APPARATUS

S214: AUTHORIZED USER?

S215: DOWNLOAD PROGRAM PRESET RECORDING SCRIPT

S216: EXECUTE PROGRAM PRESET RECORDING SETTING

[FIG. 31]

31-A: 20:00

31-B: 21:00

31-C: 22:00

31-D: ◎◎◎ GENERAL

31-E: ×× PROFESSIONAL WRESTLING

PRESET

31-F: FRIDAY DRAMA ◎◎

PRESET

31-G: PRESET

31-H: ◎◎◎ EDUCATIONAL

31-I: ○○ FEATURING

PRESET

31-J: ◎◎ FOREIGN MOVIE THEATER

PRESET

31-K: □△ BROADCAST

31-L: ×× MUSIC

PRESET

31-M: ◎◎ INTRODUCTION

PRESET

31-N: □□ GREAT NATURE

PRESET

31-O: BOWLING △△

PRESET

31-P: CUTE ANGEL KENT

PRESET

31-Q: ◎◎ TV

31-R: ×× QUIZ

PRESET

31-S: ○○ THEATER

PRESET

31-T: ○× TV

31-U: ○○ NEWS

PRESET

31-V: OLYMPICS □□

PRESET

31-W: WORLD ○○ SOCCER

PRESET

31-X: (FRENCH MOVIE ◎◎ UNTIL 24:00)

PRESET

31-Y: △△ BROADCAST

31-Z: △△ ANGLER

PRESET

31-A': NEWS & SPORTS ◎◎

PRESET

31-B': RUINS ◎◎ EXPLORATION

PRESET

31-C': OVERSEAS TRAVEL ○○ INFORMATION

PRESET

31-D': ○□ TV

31-E': △△ JAPANESE MOVIE THEATER

PRESET

31-F': LET'S USE DIGITAL VIDEO ○%

PRESET

31-G': NEWS ◎◎

PRESET

31-H': ×× TV

31-I': PRESET

31-J': NEW CAR INFORMATION ×× FEATURING

PRESET

31-K': 22○○ DRAMA

PRESET

31-L': ○○ TV

31-M': NEWS/STOCK PRICE COMMENTARY

PRESET

31-N': ○○ SCIENCE

PRESET

31-O': △△ THEATER

PRESET

31-P': YESTERDAY'S ◎◎

PRESET

31-Q': ◎◎ BROADCAST

31-R': △△ CHALLENGE

PRESET

31-S': ◎◎ SWORD

PRESET

31-T': PRESET

31-U': PRESET

[FIG. 32]

32-A: FILE(F)

32-B: EDIT(E)

32-C: VIEW(V)

32-D: GO(G)

32-E: HELP(H)

32-F: BACK

32-G: NEXT

32-H: RELOAD

32-I: HOME

32-J: SEARCH

32-K: GUIDE

32-L: PRINT

32-M: BOOKMARK

32-N: LOCATION

32-O: ASSOCIATED SITES

32-P: DEAR MR. ◎◎

32-Q: STATION: ○× TV

PROGRAM-TITLE: WORLD ○○ SOCCER

PROGRAM-SUBTITLE: JAPAN VS. GERMANY

THIS PROGRAM HAS BEEN RECORDED NORMALLY.

32-R: CHANGE DEVICES

32-S: CONFIRM PRESET

32-T: DOCUMENT: COMPLETED

[FIG. 33]

33-A: FILE(F)

33-B: EDIT(E)

33-C: VIEW(V)

33-D: GO(G)

33-E: HELP(H)

33-F: BACK

33-G: NEXT

33-H: RELOAD

33-I: HOME

33-J: SEARCH

33-K: GUIDE

33-L: PRINT

33-M: SECURITY

33-N: STOP

33-O: BOOKMARK

33-P: LOCATION

33-Q: ASSOCIATED SITES

33-R: MR. ◎◎ CAN USE ONE OF THE FOLLOWING DEVICES FOR PRESET RECORDING:

33-S: DEVICE ID DEVICE TYPE MAKER MODEL DEFAULT

33-T: DO YOU WANT TO REGISTER AS DEFAULT?

YES NO

[FIG. 34]

34-A: ○× TV

34-B: ○○ NEWS

PRESET

34-C: OLYMPICS □□

PRESET

34-D: WORLD SOCCER

PRESET

34-E: (FRENCH MOVIE ◎◎ UNTIL 24:00)

PRESET

34-F: △△ BROADCAST

34-G: △△ ANGLER

PRESET

34-H: NEWS & SPORTS ◎◎

PRESET

34-I: RUINS ◎◎ EXPLORATION

PRESET

34-J: OVERSEAS TRAVEL ○○ INFORMATION

PRESET

[FIG. 35]

35-A: FILE(F)

35-B: EDIT(E)

35-C: VIEW(V)

35-D: GO(G)

35-E: HELP(H)

35-F: BACK

35-G: NEXT

35-H: RELOAD

35-I: HOME

35-J: SEARCH

35-K: GUIDE

35-L: PRINT

35-M: SECURITY

35-N: STOP

35-O: BOOKMARK

35-P: LOCATION

35-Q: ASSOCIATED SITES

35-R: MR. ◎◎ CURRENTLY SETS THE FOLLOWING PROGRAMS FOR PRESET RECORDING:

35-S: CHANNEL RECORDING START TIME RECORDING END TIME TITLE

CUTE ANGEL KENT

○○ NEWS

○○ SCIENCE

WORLD ○○ SOCCER

35-T: DELETE BACK

25-U: DOCUMENT: COMPLETED

[FIG. 36]

S221: SEND ELECTRONIC MAIL HAVING URL TO MOBILE TERMINAL APPARATUS

S222: TO ACCESS URL?

S223: DISPLAY PROGRAM INFORMATION

[FIG. 37]

37-A: FILE(F)

37-B: EDIT(E)

37-C: MAILBOX(X)

37-D: MESSAGE(M)

37-E: RECORD(R)

37-F: SEARCH(S)

37-G: TOOL(T)

37-H: WINDOW(W)

37-I: HELP(H)

37-J: INBOX OUTBOX TRASH

37-K: NONE

37-L: SEND

37-M: PROGRAM INTRODUCTION TEXT

37-N: PRESS F1 FOR HELP.

37-O: START

[FIG. 38]

38-A: FILE(F)

38-B: EDIT(E)

38-C: MAILBOX(X)

38-D: MESSAGE(M)

38-E: RECORD(R)

38-F: SEARCH(S)

38-G: TOOL(T)

38-H: WINDOW(W)

38-I: HELP(H)

38-J: INBOX OUTBOX TRASH

38-K: NONE

38-L: SEND

38-M: PROGRAM INTRODUCTION TEXT

38-N: ACCESSING THE FOLLOWING ADDRESS ALLOWS MR. ◎◎ TO VIEW THE LIST OF PROGRAMS PRESET FOR RECORDING AND CANCEL THEIR REGISTRATION:

38-O: PRESS F1 FOR HELP.

38-P: START

[FIG. 39]

S231: RETURN ELECTRONIC MAIL HAVING ADDRESS TO MOBILE TERMINAL APPARATUS

S232: TO CHANGE RECORDING APPARATUSES?

S233: CHANGE RECORDING APPARATUSES

S234: TO ACCESS ADDRESS?

S235: RETRIEVE PROGRAM INFORMATION

[FIG. 40]

40-A: FILE(F)

40-B: EDIT(E)

40-C: MAILBOX(X)

40-D: MESSAGE(M)

40-E: RECORD(R)

40-F: SEARCH(S)

40-G: TOOL(T)

40-H: WINDOW(W)

40-I: HELP(H)

40-J: INBOX OUTBOX TRASH

40-K: NONE

40-L: SEND

40-M: PROGRAM INTRODUCTION TEXT

40-N: ACCESSING THE FOLLOWING ADDRESS ALLOWS MR. ◎◎ TO CHANGE RECORDING APPARATUSES TO WHICH PROGRAMS ARE TO BE RECORDED:

40-O: PRESS F1 FOR HELP.

30-P: START

[FIG. 41]

41-A: FILE(F)

41-B: EDIT(E)

41-C: MAILBOX(X)

41-D: MESSAGE(M)

41-E: RECORD(R)

41-F: SEARCH(S)

41-G: TOOL(T)

41-H: WINDOW(W)

41-I: HELP(H)

41-J: INBOX OUTBOX TRASH

41-K: NONE

41-L: SEND

41-M: MR. ◎◎ CURRENTLY SETS THE FOLLOWING PROGRAMS FOR PRESET RECORDING. TO CHANGE RECORDING APPARATUSES, CLICK

THE ADDRESS ATTACHED TO THE PROGRAM FOR WHICH YOU WANT TO CHANGE RECORDING APPARATUSES.

41-N: CHANNEL RECORDING START TIME RECORDING END TIME TITLE

CUTE ANGEL KENT

○○ NEWS

○○ SCIENCE

WORLD ○○ SOCCER

41-O: PRESS F1 FOR HELP.

41-P: START

[FIG. 42]

42-A: FILE(F)

42-B: EDIT(E)

42-C: MAILBOX(X)

42-D: MESSAGE(M)

42-E: RECORD(R)

42-F: SEARCH(S)

42-G: TOOL(T)

42-H: WINDOW(W)

42-I: HELP(H)

42-J: INBOX OUTBOX TRASH

42-K: NONE

42-L: SEND

42-M: MR. ◎◎ CURRENTLY SETS THE FOLLOWING PROGRAMS FOR

PRESET RECORDING. TO CHANGE RECORDING APPARATUSES, CLICK THE ADDRESS ATTACHED TO THE PROGRAM FOR WHICH YOU WANT TO CHANGE RECORDING APPARATUSES.

42-N: CHANNEL RECORDING START TIME RECORDING END TIME TITLE

WORLD ○○ SOCCER

TO CHANGE RECORDING APPARATUSES, SELECT ONE OF THE FOLLOWING:

42-O: PRESS F1 FOR HELP.

42-P: START

[FIG. 43]

43-A: FILE(F)

43-B: EDIT(E)

43-C: MAILBOX(X)

43-D: MESSAGE(M)

43-E: RECORD(R)

43-F: SEARCH(S)

43-G: TOOL(T)

43-H: WINDOW(W)

43-I: HELP(H)

43-J: INBOX OUTBOX TRASH

43-K: NONE

43-L: SEND

43-M: PROGRAM INTRODUCTION TEXT

43-N: ACCESSING THE FOLLOWING ADDRESS ALLOWS MR. ◎◎ TO VIEW THE LIST OF PROGRAMS PRESET FOR RECORDING AND CANCEL THEIR REGISTRATION:

43-O: PRESS F1 FOR HELP.

43-P: START

[FIG. 44]

44-A: FILE(F)

44-B: EDIT(E)

44-C: MAILBOX(X)

44-D: MESSAGE(M)

44-E: RECORD(R)

44-F: SEARCH(S)

44-G: TOOL(T)

44-H: WINDOW(W)

44-I: HELP(H)

44-J: INBOX OUTBOX TRASH

44-K: NONE

44-L: SEND

44-M: MR. ◎◎ CURRENTLY SETS THE FOLLOWING PROGRAMS FOR PRESET RECORDING. TO CANCEL THE PRESET RECORDING, CLICK THE ADDRESS OF THE PROGRAM TO BE CANCELED.

44-N: CHANNEL RECORDING START TIME RECORDING END TIME TITLE

CUTE ANGEL KENT

○○ NEWS

○○ SCIENCE

WORLD ○○ SOCCER

44-O: PRESS F1 FOR HELP.

44-P: START

[FIG. 45]

45-A: FILE(F)

45-B: EDIT(E)

45-C: MAILBOX(X)

45-D: MESSAGE(M)

45-E: RECORD(R)

45-F: SEARCH(S)

45-G: TOOL(T)

45-H: WINDOW(W)

45-I: HELP(H)

45-J: INBOX OUTBOX TRASH

45-K: NONE

45-L: SEND

45-M: MR. ◎◎,

THE PRESET RECORDING OF THE FOLLOWING PROGRAM HAS BEEN CANCELED:

45-N: CHANNEL RECORDING START TIME RECORDING END TIME TITLE

CUTE ANGEL KENT

45-O: PRESS F1 FOR HELP.

45-P: START

[FIG. 46]

46-A: NETWORK

132: ACCESS SOFTWARE

133: CONTROLLER

131: RECORDING MEDIUM

122: WWW SERVER

121: MAIL SERVER

123: DB SERVER

123a: USER INFORMATION DB

PROGRAM DB

PRESET RECORDING DB

OPERATION DB

ACCESS LOG DB

POLLING DB

[FIG. 47]

S301: WAKE UP ON THE HOUR

S302: CHECK TIME

S303: RETRIEVE USER ADDRESS

S304: SEND VISIT MAIL

[FIG. 48]

48-A: INTERNET

ENTERTAINMENT

ROMPASS IS HERE:

48-B: VISIT MAIL

[FIG. 49]

S305: ACCESS BROWSER = PREDETERMINED BROWSER?

S306: ERROR

S307: ISSUE PASSWORD INPUT MENU

[FIG. 50]

50-A: ROMPASS

ENTER PASSWORD

SEND

50-B: AUTHENTICATION MENU

[FIG. 51]

S311: OBTAIN PARAMETER

S312: ACCESS BROWSER = PREDETERMINE BROWSER?

S313: ERROR

S314: OBTAIN PASSWORD FROM USER INPUT

S315: OBTAIN PASSWORD FROM DB BY USE OF LOGIN ID

S316: INPUTTED PASSWORD CORRECT?

S317: ERROR

S318: ISSUE TOP MENU

[FIG. 52]

52-A: ROMPASS

1. ORDINARY PROGRAM GUIDE

2. LIST OF PROGRAMS PRESET FOR RECORDING

52-B: TOP MENU

[FIG. 53]

S321: OBTAIN PARAMETER

S322: ACCESS BROWSER = PREDETERMINED BROWSER?

S323: ERROR

S324: LOGIN ID AND PASSWORD CORRECT? RETRIEVE USER ID

S325: ERROR

S326: MENU TYPE = COMID = 100?

S327: CREATE ORDINARY PROGRAM GUIDE

S328: MENU TYPE = COMID = 100?

S329: ERROR

S330: OBTAIN USER'S LIST OF PROGRAMS PRESET FOR RECORDING

S331: CREATE LIST OF PROGRAMS PRESET FOR RECORDING

[FIG. 54]

54-A: ROMPASS

ORDINARY PROGRAM GUIDE

○× GENERAL

○× EDUCATIONAL

◎△ BROADCAST

△△ TV

54-B: ORDINARY PROGRAM GUIDE

(SELECT STATION)

[FIG. 55]

55-A: ROMPASS

19:00

○× NEWS 7

CLOSE △

20:00

LET'S TRY □□

LOCAL NEWS

55-B: ORDINARY PROGRAM GUIDE

(SELECT PROGRAM)

[FIG. 56]

56-A: 19:00

NC ◎

CLOSE UP

20:00

DRAMA SERIES

BACK NEXT

TO OTHER CHANNELS

56-B: ORDINARY PROGRAM GUIDE

(SELECT PROGRAM)

[FIG. 57]

57-A: DO YOU WANT TO PRESET RECORD THE FOLLOWING PROGRAM?

○× GENERAL

○× NEWS 7

YES NO

57-B: CHECKING PRESET RECORDING OPERATION

[FIG. 58]

58-A: ROMPASS

PAPAPAPA ○△×

TONIGHT ◎

COOKING △□

58-B: LIST OF PROGRAMS PRESET FOR RECORDING

[FIG. 59]

59-A: DO YOU WANT TO CANCEL THE PRESET RECORDING OF THE FOLLOWING PROGRAM?

○× GENERAL

PAPAPA ○△×

YES NO

59-B: CHECKING PRESET RECORDING CANCEL OPERATION

[FIG. 60]

S341: OBTAIN PARAMETER

S342: ACCESS BROWSER = PREDETERMINED BROWSER?

S343: ERROR

S344: USER ID OBTAINED BY USE OF LOGIN ID AND PASSWORD?

S345: ERROR

S346: PROGRAM INFORMATION OBTAINED FROM PROGRAM DB BY USE OF PARAMETER INFRA, CHANNEL NAME, AND START TIME?

S347: ERROR

S348: THIS PROGRAM ALREADY BROADCAST?

S349: ERROR

S350: ARE YOU IN FOR NEXT ROMPASS ACCESS POLLING?

S351: ERROR

S352: OBTAINED COMMAND CORRECT?

S353: ERROR

S354: PROGRAM PRESET RECORDING SCRIPT OR CANCEL SCRIPT

S355: REGISTER OPERATION LOG WITH OPERATION DB

S356: CREATE MENU

[FIG. 61]

S362: OBTAIN PRESET RECORDING LIST (L1) FROM GIGA POCKET

S363: OBTAIN COMPLETION LIST (L2) FROM GIGA POCKET

S364: OBTAIN INFORMATION (L3) FROM PRESET RECORDING COMPLETION FILE

S365: ADD INFORMATION FOUND IN L1 BUT NOT FOUND IN L3 TO STATUS LIST

S366: ADD INFORMATION FOUND IN L2 AND ATTACHED WITH "PRESET RECORDING" STATUS IN L2 TO STATUS LIST

[FIG. 62]

S367: SESSION ESTABLISHED?

S368: ERROR

S369: CHECK OPERATIONAL INFORMATION VIA HTTP

S370: OPERATIONAL INFORMATION FOUND?

S371: RETRIEVE LOGIN ID AND PASSWORD

S372: RETRIEVE INFORMATION FOR ONE OPERATION

S373: RETRIEVE COMMAND

S374: RETRIEVE PROGRAM INFORMATION PART

S375: COMPLIANT PARAMETER?

S376: OPERATE TERMINAL APPARATUS

S377: REGISTER OPERATION LOG

S378: ANY OTHER OPERATIONAL INFORMATION FOUND?

S380: SEND OPERATIONAL RESULT BY HTTP

S381: SUCCESSFUL?

S382: REGISTER RESULT WITH LOG FILE AND PRESET RECORDING COMPLETION FILE

S383: ANY OTHER OPERATIONAL RESULT INFORMATION FOUND?

S384: ELEMENT FOUND IN STATUS LIST?

S385: RETRIEVE ELEMENT FROM STATUS LIST

S387: SEND ELEMENT OF STATUS LIST BY HTTPS (CGI IS DIFFERENT BETWEEN COMPLETION AND PRESET RECORDING)

S388: SUCCESSFUL?

S389: ANY OTHER ELEMENTS FOUND?

[FIG. 63]

63-A: <INFRA> INFRA INFORMATION (GROUND WAVE, SKYPERFECTV, BS-D, ETC.) </INFRA>

63-B: <STATION> STATION NAME </STATION>

63-C: <YEAR> YEAR OF BROADCAST </YEAR>

63-D: <MONTH> MONTH OF BROADCAST </MONTH>

63-E: <DATE> DAY OF BROADCAST </DATE>

63-F: <START> BROADCAST START TIME </START>

63-G: <END> BROADCAST END TIME </END>

63-H: <TITLE> PROGRAM TITLE </TITLE>

63-I: <EXPLANATION> EXPLANATION OF PROGRAM </EXPLANATION>

63-J: <INFO> OTHER INFORMATION </INFO>

63-K: <COMMAND> OPERATION COMMAND </COMMAND>

63-L: <VERSION> ACCESS PROTOCOL VERSION INFORMATION </VERSION>

[FIG. 65]

S390: STORE PRESET RECORDING LIST

S391: SESSION COMPLETED?

S392: ERROR

[FIG. 66]

S401: OBTAIN PARAMETER

S402: USER ID OBTAINED FROM LOGIN ID AND PASSWORD?

S403: ERROR

S404: PROGRAM INFORMATION OBTAINED FROM PROGRAM DB BY USE OF STATION ID AND START TIME?

S405: ERROR

S406: PROGRAM INFORMATION FOUND IN OPERATION LOG?

S407: ERROR

S408: ENTER OPERATIONAL RESULT INTO RESULT ITEM OF OPERATION DB

S409: ENTER ACCESS DATE INTO POLLING DB

S410: SEND RETURN VALUE

S411: ADDRESS CORRESPONDING TO USER ID FOUND?

S412: ERROR

S413: CREATE OPERATIONAL RESULT COMMENT

S414: SEND MAIL

[FIG. 67]

S421: OBTAIN PARAMETER

S422: USER ID OBTAINED FROM LOGIN ID AND PASSWORD?

S423: ERROR

S424: PROGRAM INFORMATION OBTAINED FROM PROGRAM DB BY USE OF STATION ID AND START TIME?

S425: ERROR

S426: REGISTER ELEMENT NOT FOUND IN PRESET RECORDING DB AND ATTACH MARKER "MANUAL PRESET RECORDING" TO PRESET RECORDING DB FOR ANY ELEMENT NOT FOUND IN OPERATION DB (NEW)

[FIG. 68]

S431: OBTAIN PARAMETER

S432: USER ID OBTAINED FROM LOGIN ID AND PASSWORD?

S433: ERROR

S434: PROGRAM INFORMATION OBTAINED FROM PROGRAM DB BY USE OF STATION ID AND START TIME?

S435: ERROR

S436: THIS ELEMENT NOT MARKED WITH "MANUAL PRESET RECORDING" IN PRESET RECORDING DB?

S437: ATTACH COMPLETION MARKER

S438: ISSUE ELECTRONIC MAIL

S439: ADDRESS CORRESPONDING TO USER ID FOUND?

S440: ERROR

S441: CREATE OPERATIONAL RESULT COMMENT

S442: SEND MAIL

[FIG. 69]

202: BROADCAST STATION

207: NETWORK

[FIG. 70]

20a: STATION: ○× BROADCAST

PROGRAM-TITLE: ○△ DRAMA SERIES

○MOTO △MA, △ICHI ×○TA, ×TSU ○NOSUKE

[FIG. 71]

S501: REQUEST SCRIPT

S502: SEND SCRIPT

S503: SET PRESET RECORDING

S504: RECORDING PROGRAM

S505: PLAYBACK PROCESSING

[FIG. 72]

S511: REQUEST PLAYBACK

S512: SEND FILE TO REPRODUCING SECTION

S513: STORE "START" TIME AND "LENGTH" INTO QUEUE

S514: START PLAYBACK

S516: DISPLAY URL

S517: URL ACCESSED?

S518: DISPLAY PROGRAM-ASSOCIATED INFORMATION

S520: END URL DISPLAY

S521: END PLAYBACK

[FIG. 73]

S531: SELECT PROGRAM TO VIEW

S532: CREATE AND DOWNLOAD PROGRAM VIEWING SCRIPT

S533: TIME CONVERSION PROCESSING

S535: DISPLAY URL

S536: URL ACCESSED?

S537: DISPLAY PROGRAM-ASSOCIATED INFORMATION

S539: END URL DISPLAY

S540: END PROGRAM

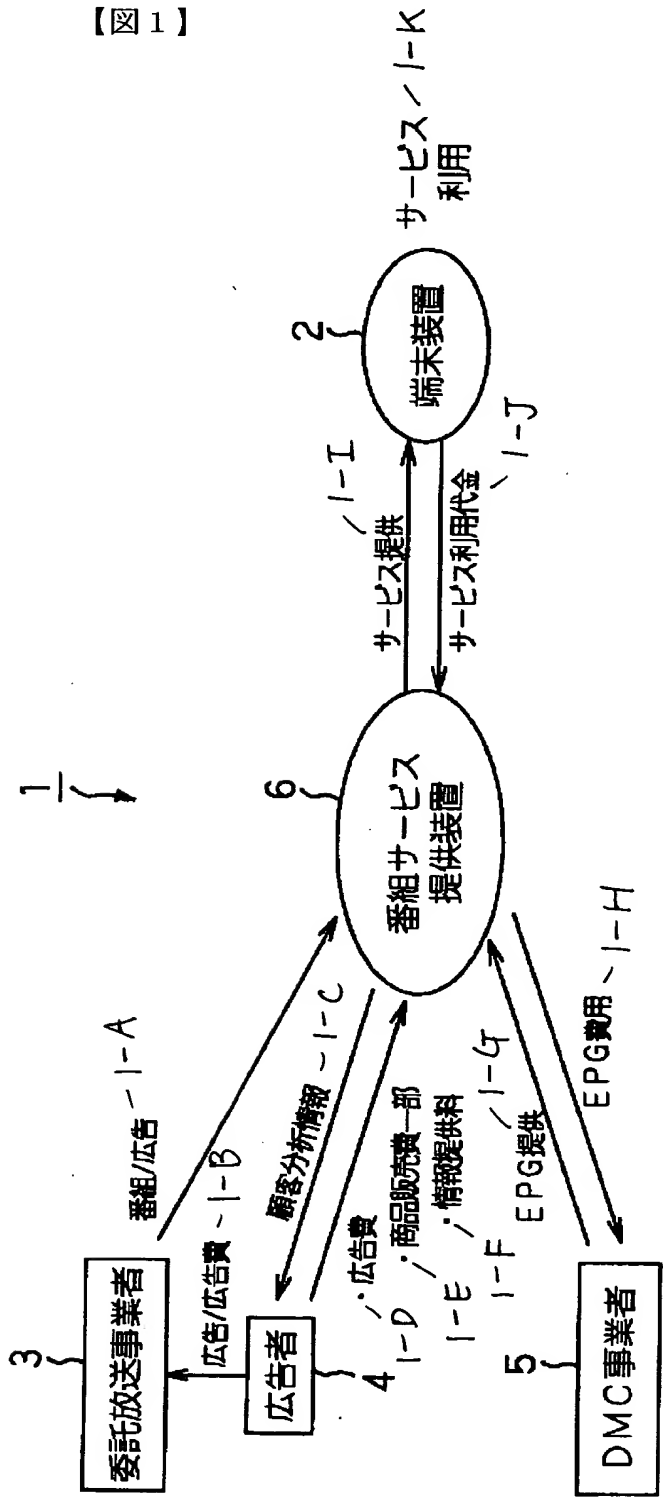
[FIG. 74]

202: BROADCAST STATION

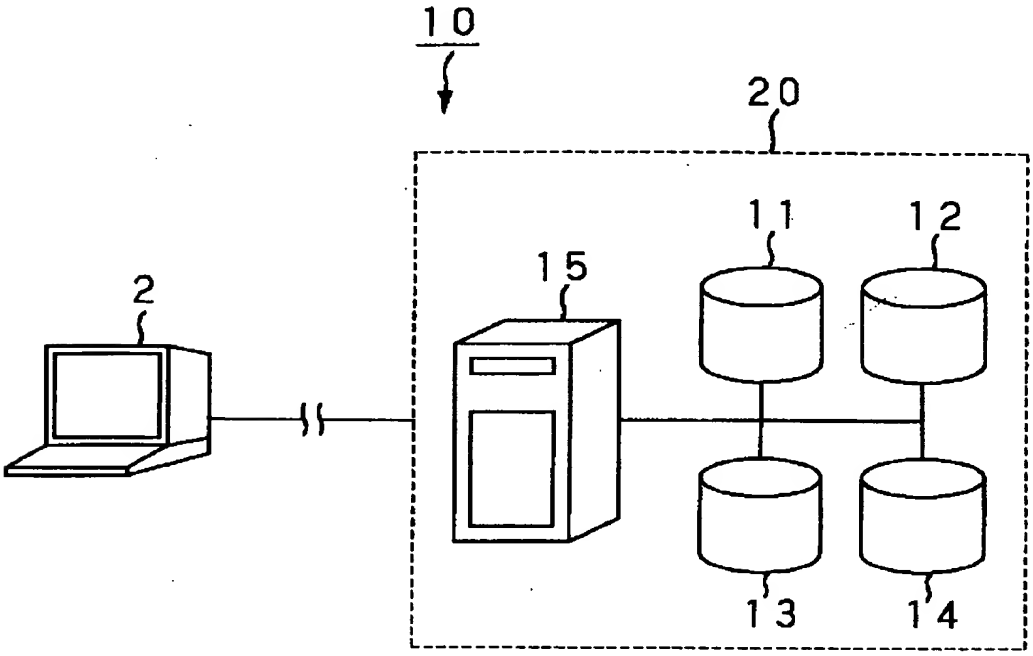
207: NETWORK

【書類名】　図面

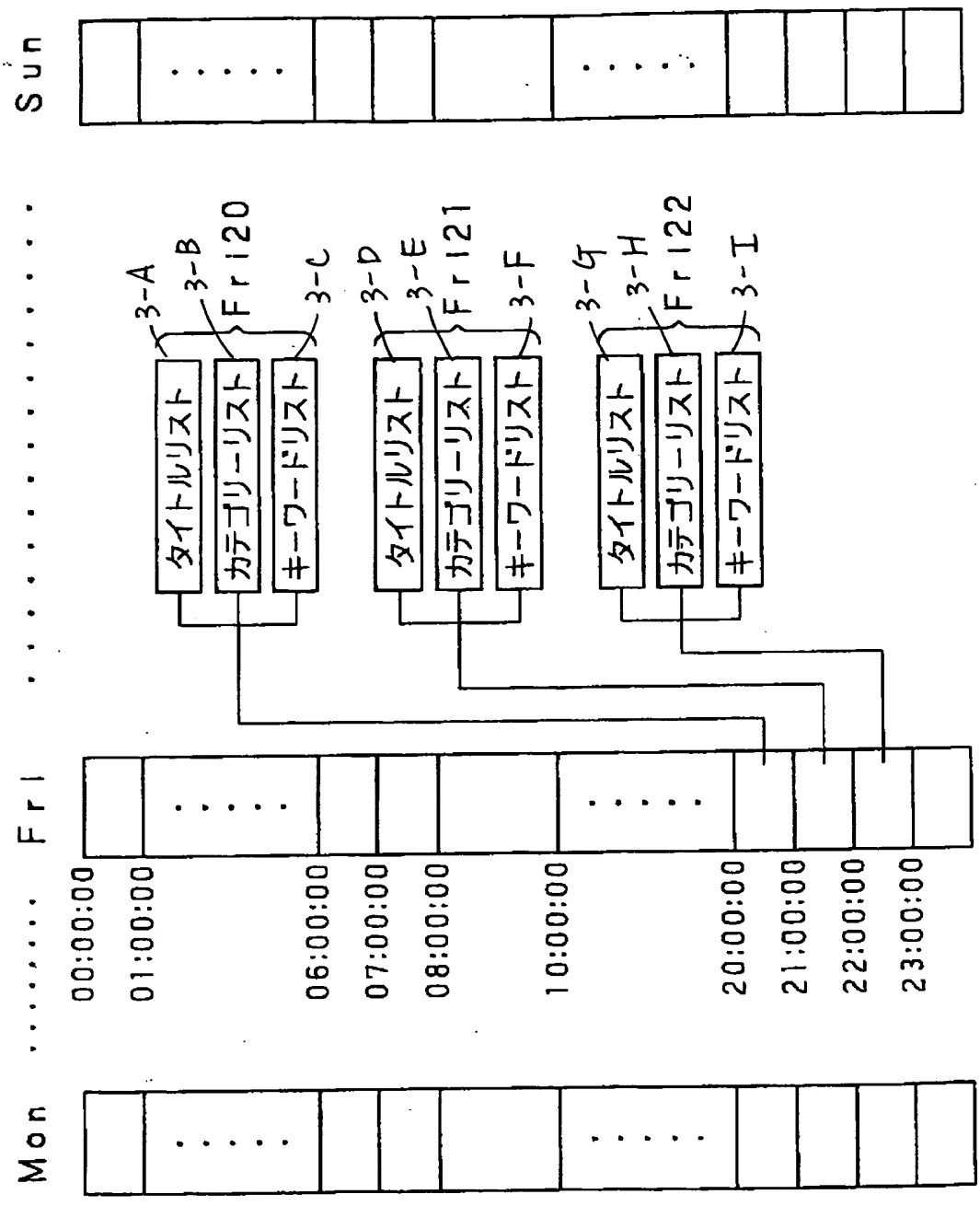
【図１】


1
2
端末装置
サービス／1-K
利用
1-I
サービス提供
1-J
サービス利用代金
6
番組サービス
提供装置
番組/広告 1-A
1-B
広告/広告費
1-C
顧客分析情報
・広告費
・商品販売費一部
1-D
1-E
・情報提供料
1-F
EPG提供
1-G
EPG費用 1-H
3
委託放送事業者
広告者
4
5
DMC事業者

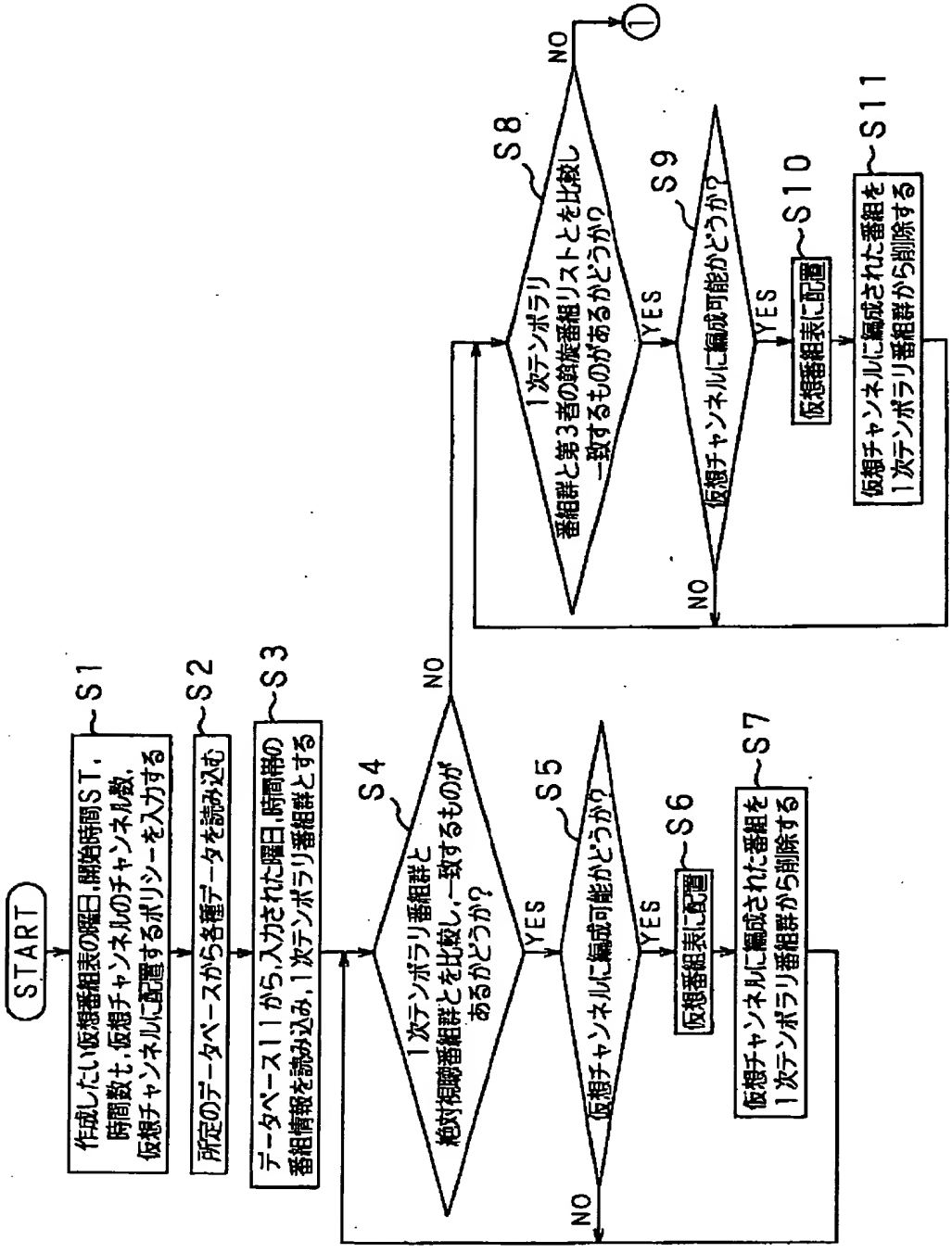
【図２】



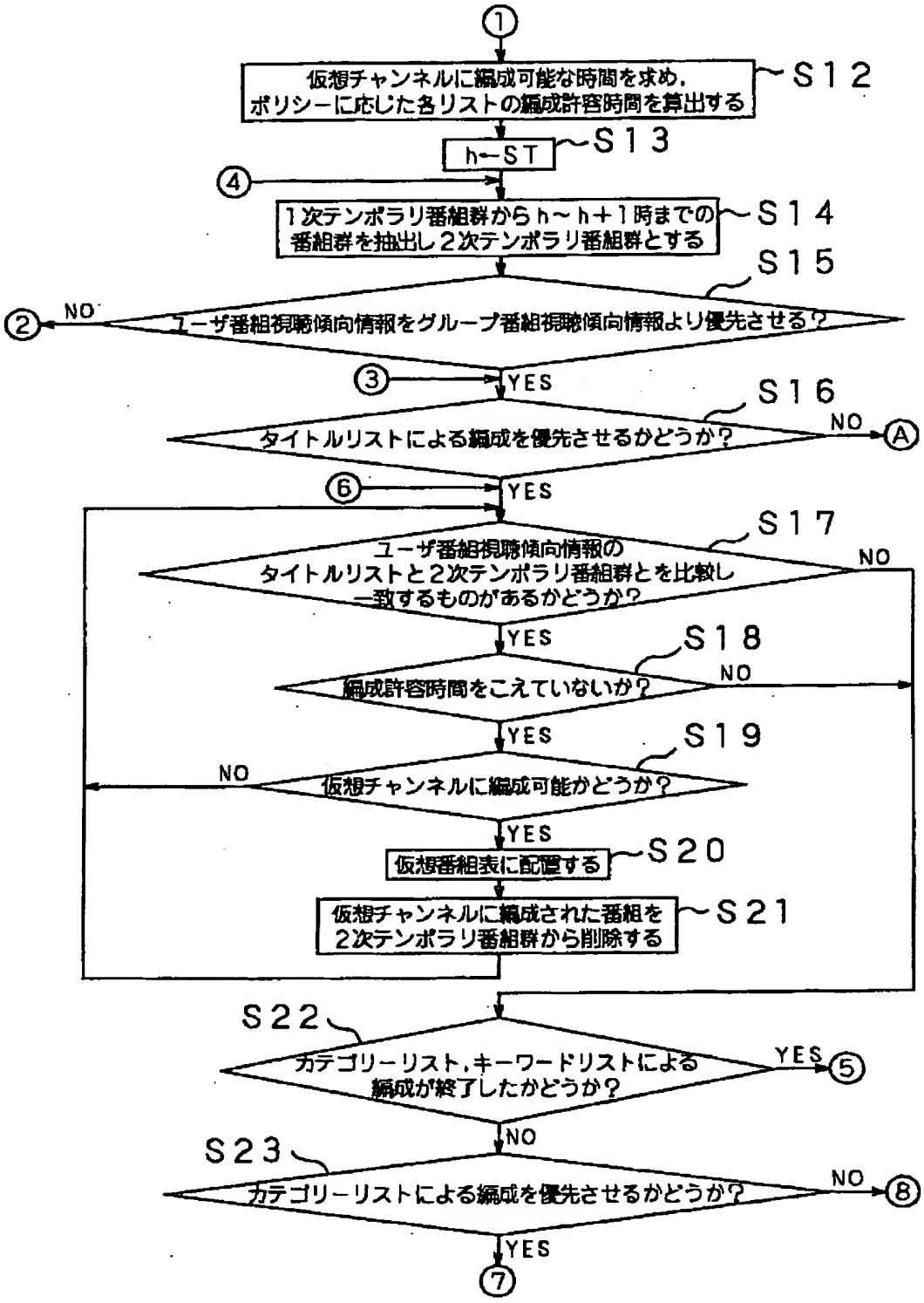
【図３】


Sun
Mon
Fri
00:00:00
01:00:00
06:00:00
07:00:00
08:00:00
10:00:00
20:00:00
21:00:00
22:00:00
23:00:00
3-A
3-B
Fri20
3-C
3-D
3-E
Fri21
3-F
3-G
3-H
Fri22
3-I
タイトルリスト
カテゴリーリスト
キーワードリスト

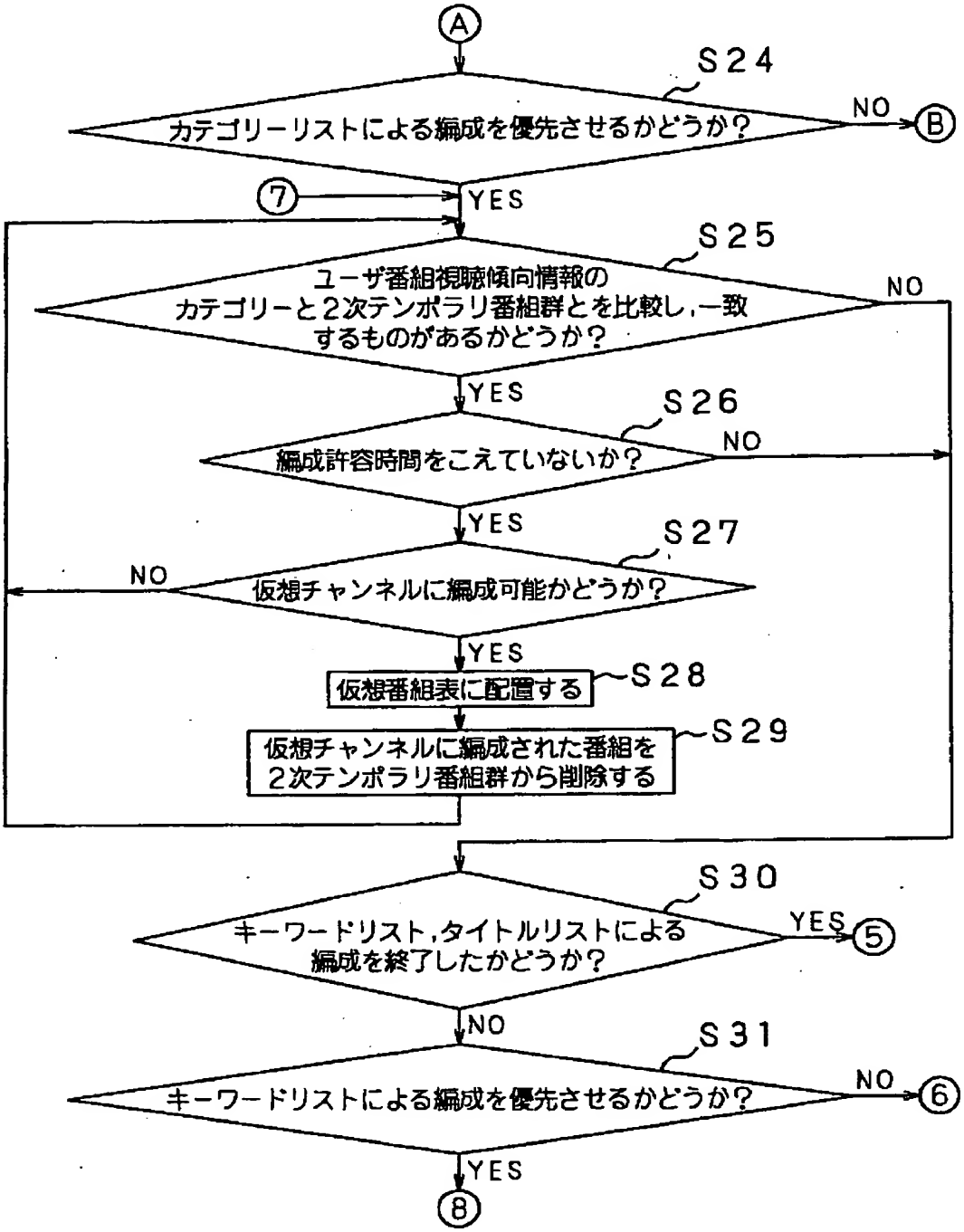
【図４】


START
作成したい仮想番組表の曜日,開始時間ST,時間数t,仮想チャンネルの数,仮想チャンネルに配置するポリシーを入力する
S1
所定のデータベースから各種データを読み込む
S2
データベース11から,入力された曜日,時間帯の番組情報を読み込み,1次テンポラリ番組群とする
S3
1次テンポラリ番組群と絶対視聴番組群とを比較し,一致するものがあるかどうか?
S4
NO
YES
仮想チャンネルに編成可能かどうか?
S5
NO
YES
仮想番組表に配置
S6
仮想チャンネルに編成された番組を1次テンポラリ番組群から削除する
S7
1次テンポラリ番組群と第3者の鉄板番組リストとを比較し一致するものがあるかどうか?
S8
NO
YES
①
仮想チャンネルに編成可能かどうか?
S9
NO
YES
仮想番組表に配置
S10
仮想チャンネルに編成された番組を1次テンポラリ番組群から削除する
S11

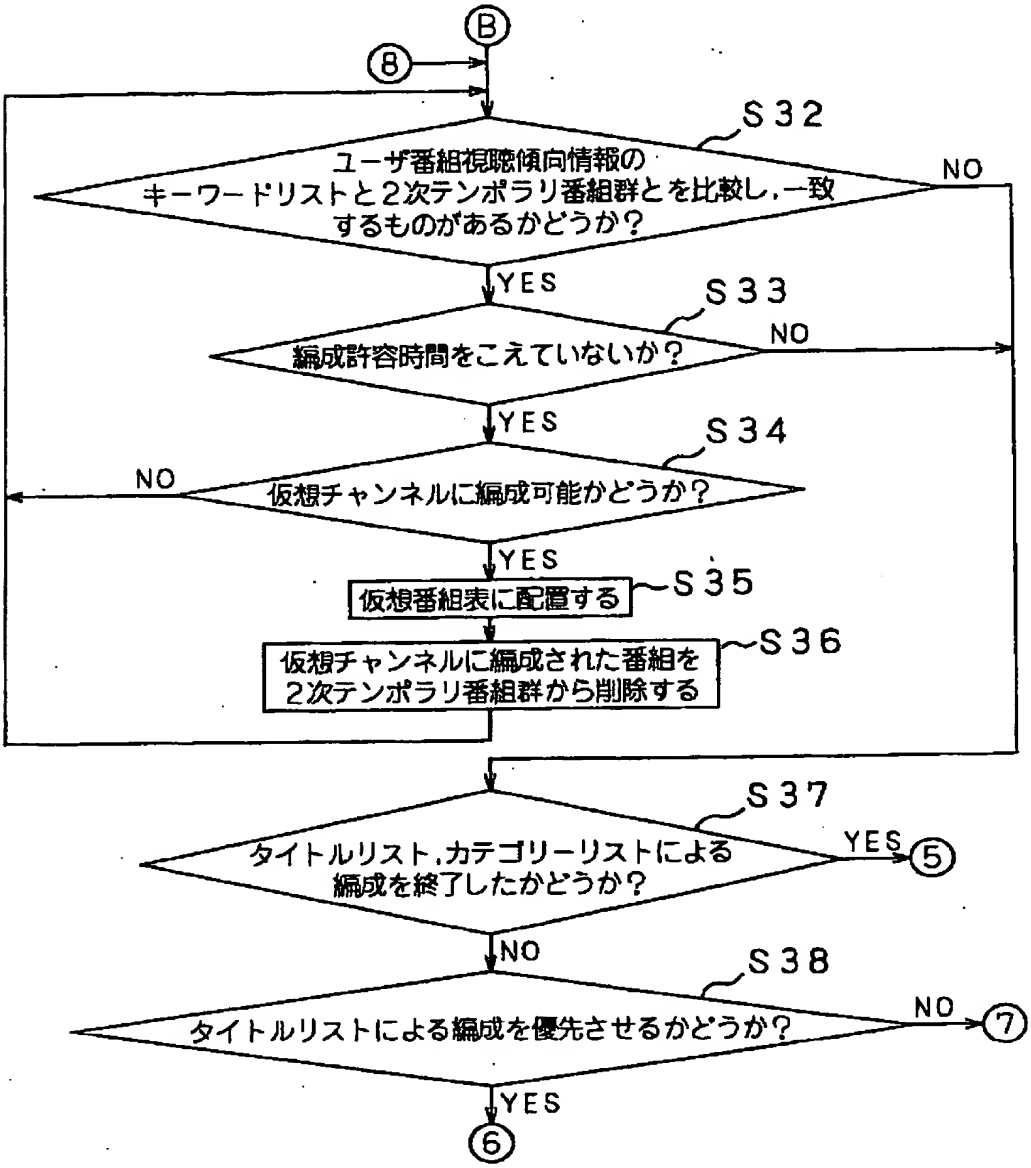
【図５】


①
仮想チャンネルに編成可能な時間を求め，
ポリシーに応じた各リストの編成許容時間を算出する
S12
h←ST
S13
④
1次テンポラリ番組群からh～h＋1時までの
番組群を抽出し2次テンポラリ番組群とする
S14
S15
②
NO
ユーザ番組視聴傾向情報をグループ番組視聴傾向情報より優先させる？
③
YES
S16
タイトルリストによる編成を優先させるかどうか？
NO
Ⓐ
⑥
YES
S17
ユーザ番組視聴傾向情報の
タイトルリストと2次テンポラリ番組群とを比較し
一致するものがあるかどうか？
NO
YES
S18
編成許容時間をこえていないか？
NO
YES
S19
NO
仮想チャンネルに編成可能かどうか？
YES
仮想番組表に配置する
S20
仮想チャンネルに編成された番組を
2次テンポラリ番組群から削除する
S21
S22
カテゴリーリスト，キーワードリストによる
編成が終了したかどうか？
YES
⑤
NO
S23
カテゴリーリストによる編成を優先させるかどうか？
NO
⑧
YES
⑦

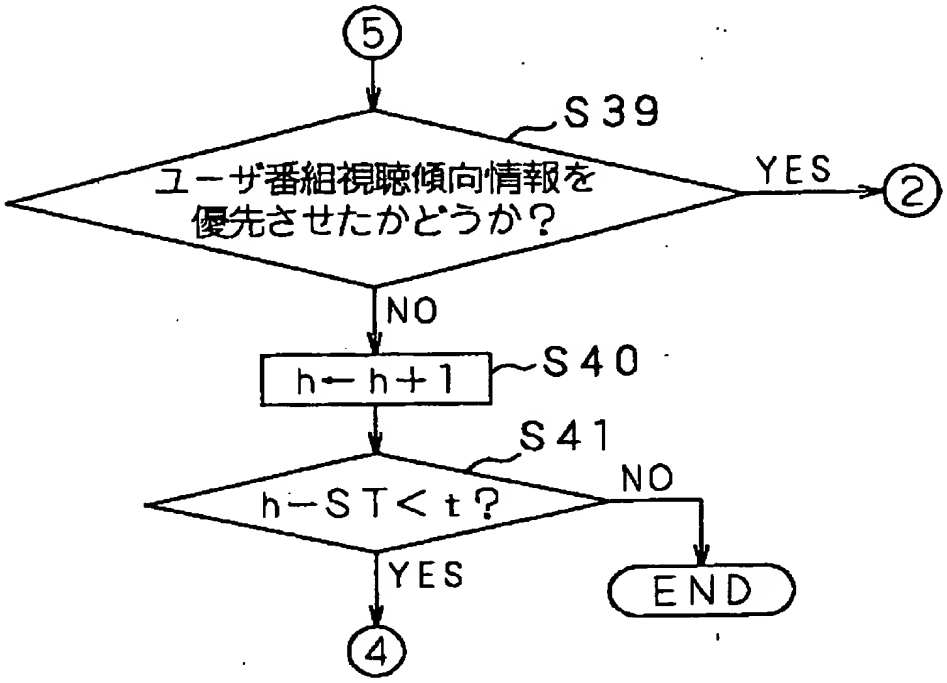
【図６】


A
S24
カテゴリーリストによる編成を優先させるかどうか？
NO
B
7
YES
S25
ユーザ番組視聴傾向情報の
カテゴリーと2次テンポラリ番組群とを比較し，一致
するものがあるかどうか？
NO
YES
S26
編成許容時間をこえていないか？
NO
YES
S27
NO
仮想チャンネルに編成可能かどうか？
YES
仮想番組表に配置する
S28
仮想チャンネルに編成された番組を
2次テンポラリ番組群から削除する
S29
S30
キーワードリスト，タイトルリストによる
編成を終了したかどうか？
YES
5
NO
S31
キーワードリストによる編成を優先させるかどうか？
NO
6
YES
8

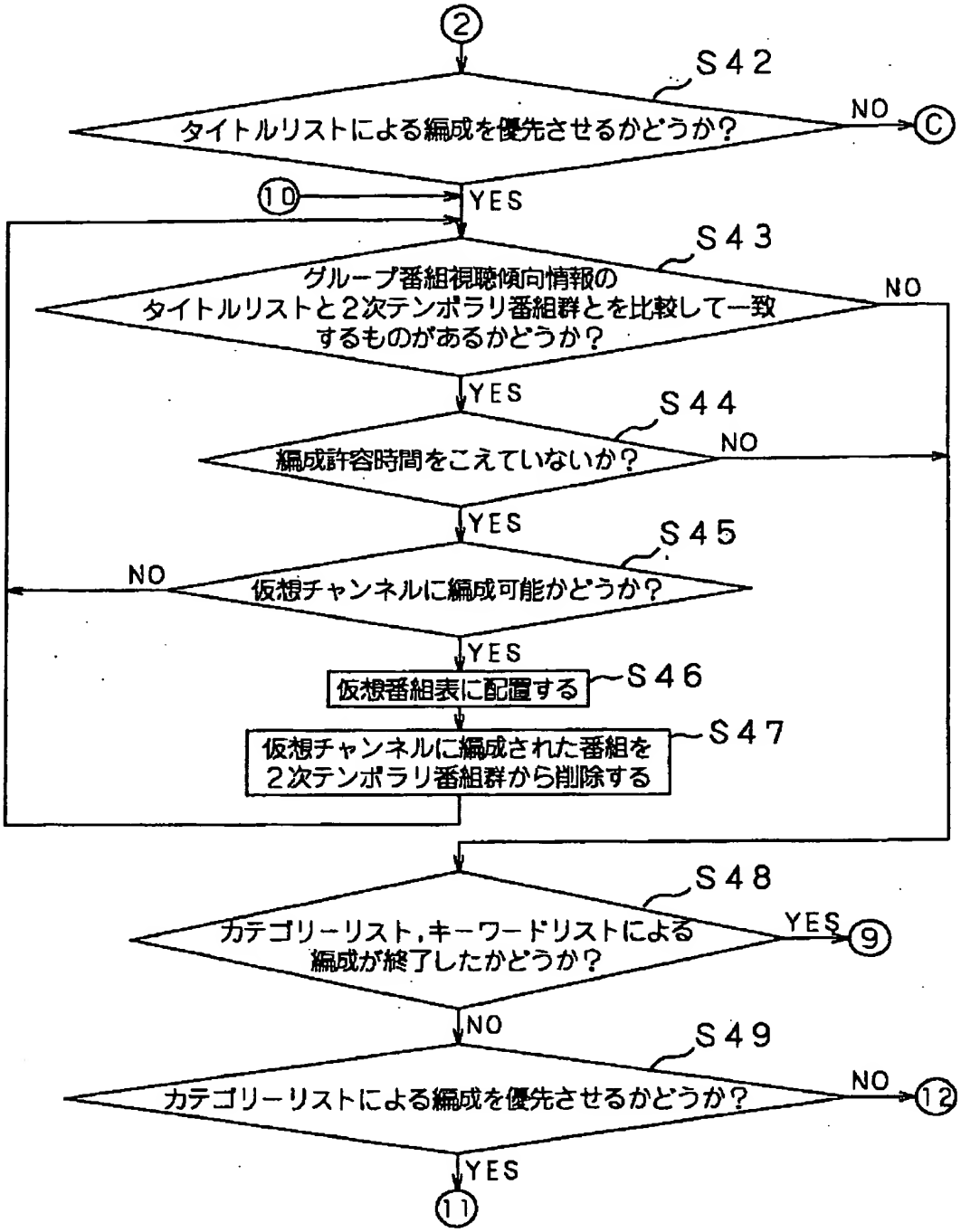
【図７】


Ⓑ
⑧
S32
ユーザ番組視聴傾向情報の
キーワードリストと2次テンポラリ番組群とを比較し，一致
するものがあるかどうか？
NO
YES
S33
編成許容時間をこえていないか？
NO
YES
S34
NO
仮想チャンネルに編成可能かどうか？
YES
仮想番組表に配置する
S35
仮想チャンネルに編成された番組を
2次テンポラリ番組群から削除する
S36
S37
タイトルリスト，カテゴリーリストによる
編成を終了したかどうか？
YES
⑤
NO
S38
タイトルリストによる編成を優先させるかどうか？
NO
⑦
YES
⑥

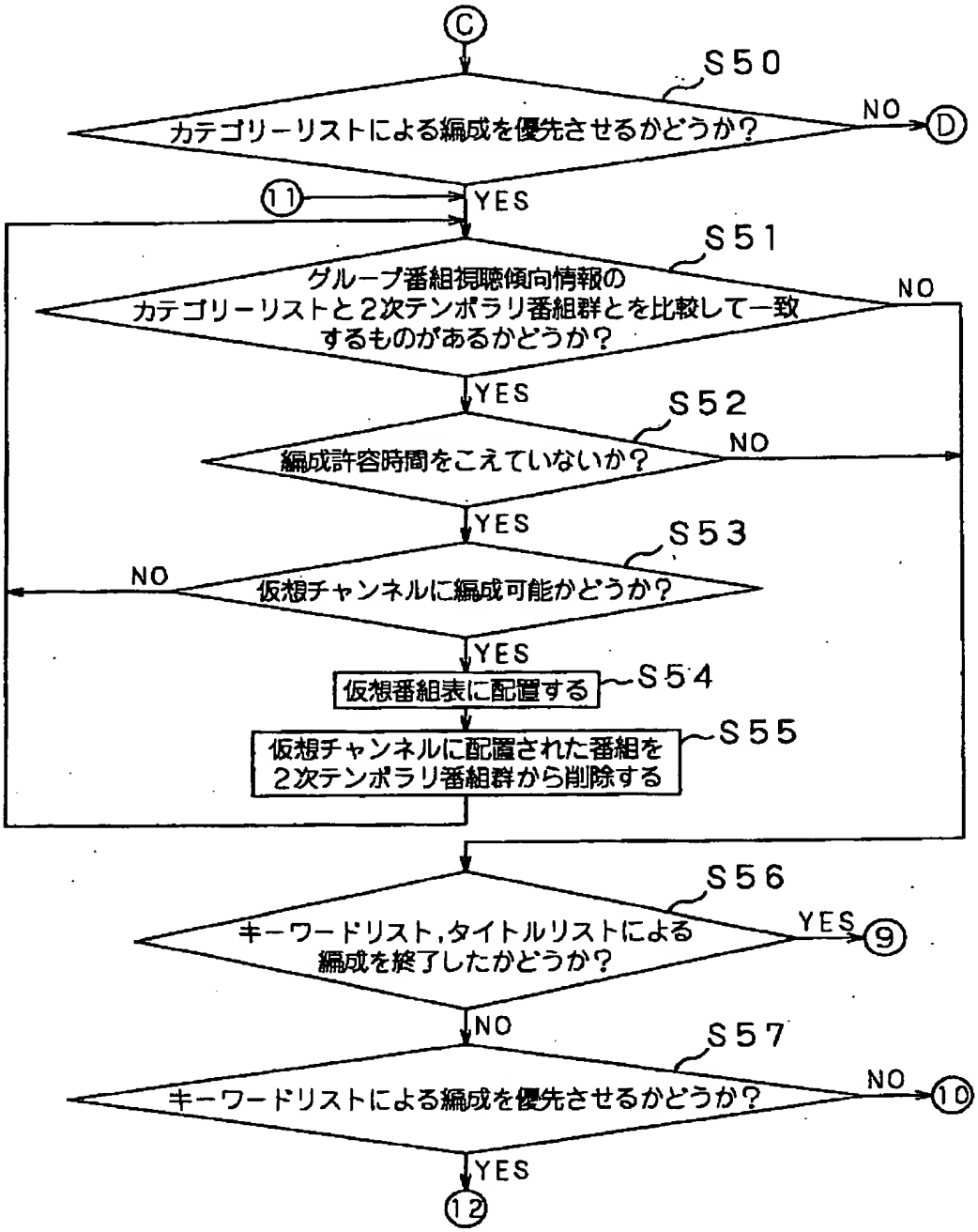
【図８】


⑤
S39
ユーザ番組視聴傾向情報を
優先させたかどうか？
YES
②
NO
h←h+1
S40
S41
h−ST＜t？
NO
YES
END
④

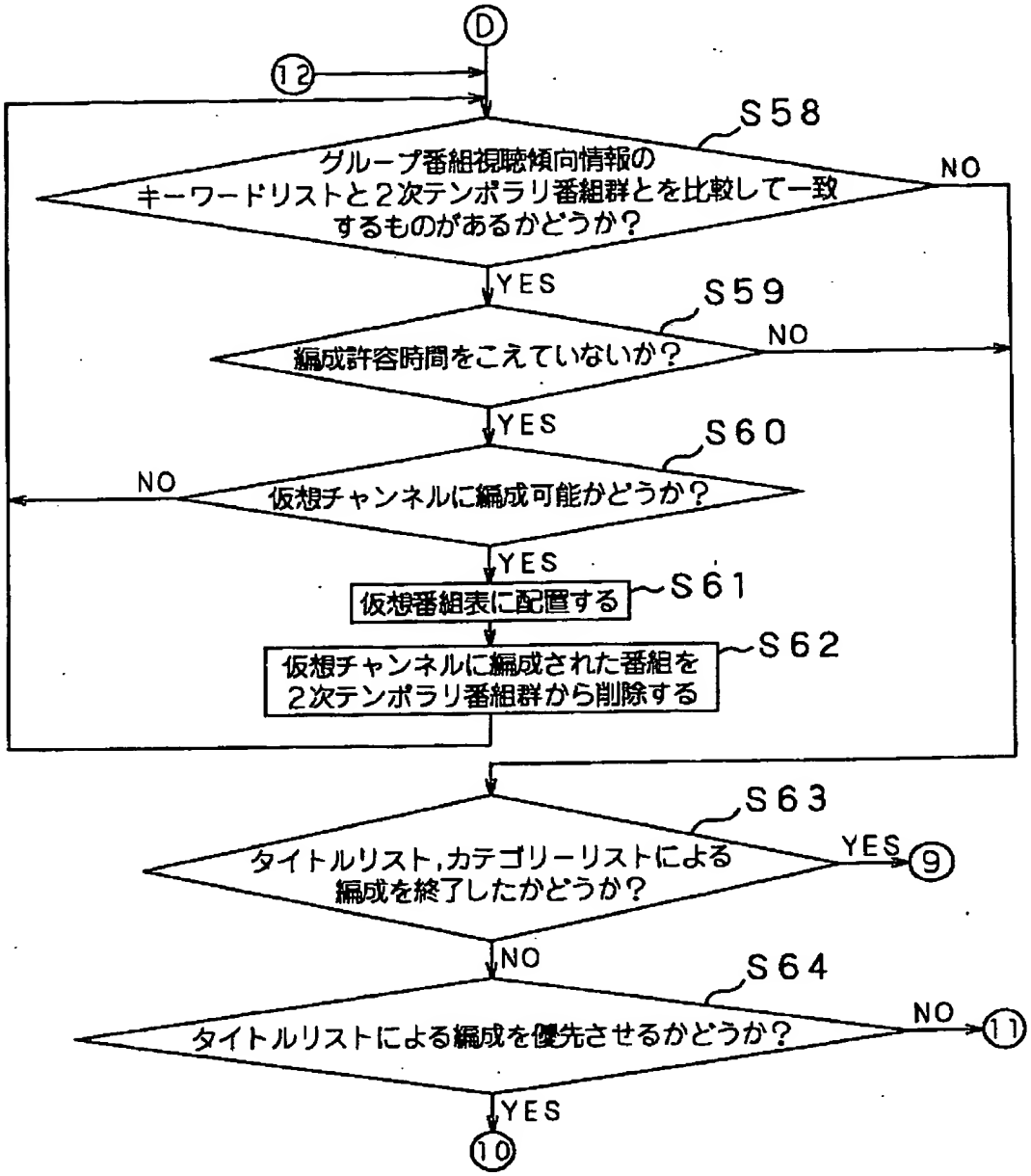
【図９】


②
S42
タイトルリストによる編成を優先させるかどうか？
NO
C
⑩
YES
S43
グループ番組視聴傾向情報の
タイトルリストと2次テンポラリ番組群とを比較して一致
するものがあるかどうか？
NO
YES
S44
編成許容時間をこえていないか？
NO
YES
S45
NO
仮想チャンネルに編成可能かどうか？
YES
仮想番組表に配置する
S46
仮想チャンネルに編成された番組を
2次テンポラリ番組群から削除する
S47
S48
カテゴリーリスト，キーワードリストによる
編成が終了したかどうか？
YES
⑨
NO
S49
カテゴリーリストによる編成を優先させるかどうか？
NO
⑫
YES
⑪

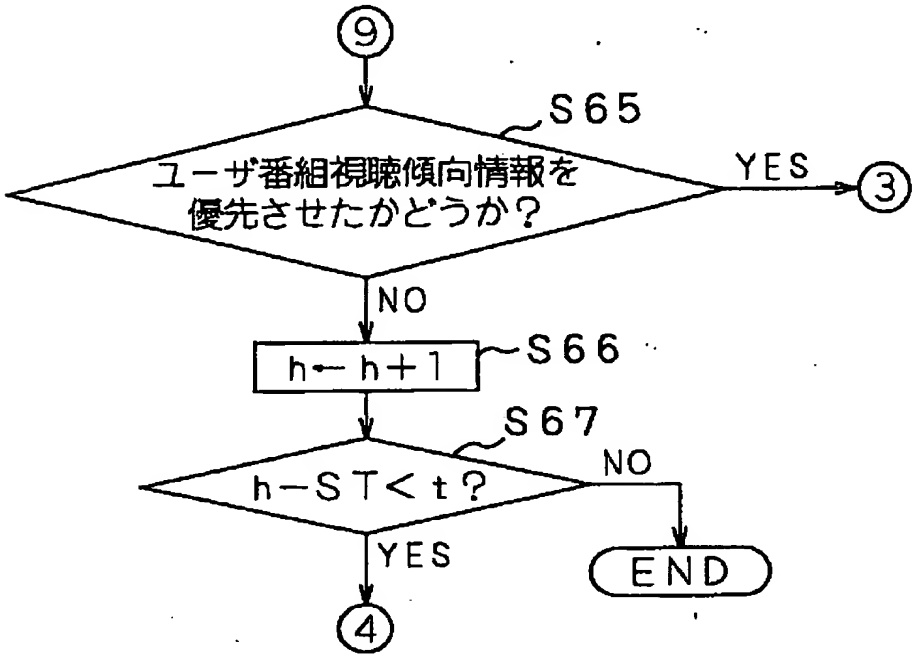
【図１０】


C
S50
カテゴリーリストによる編成を優先させるかどうか？
NO
D
YES
11
S51
グループ番組視聴傾向情報の
カテゴリーリストと2次テンポラリ番組群とを比較して一致
するものがあるかどうか？
NO
YES
S52
編成許容時間をこえていないか？
NO
YES
S53
NO
仮想チャンネルに編成可能かどうか？
YES
仮想番組表に配置する
S54
仮想チャンネルに配置された番組を
2次テンポラリ番組群から削除する
S55
S56
キーワードリスト，タイトルリストによる
編成を終了したかどうか？
YES
9
NO
S57
キーワードリストによる編成を優先させるかどうか？
NO
10
YES
12

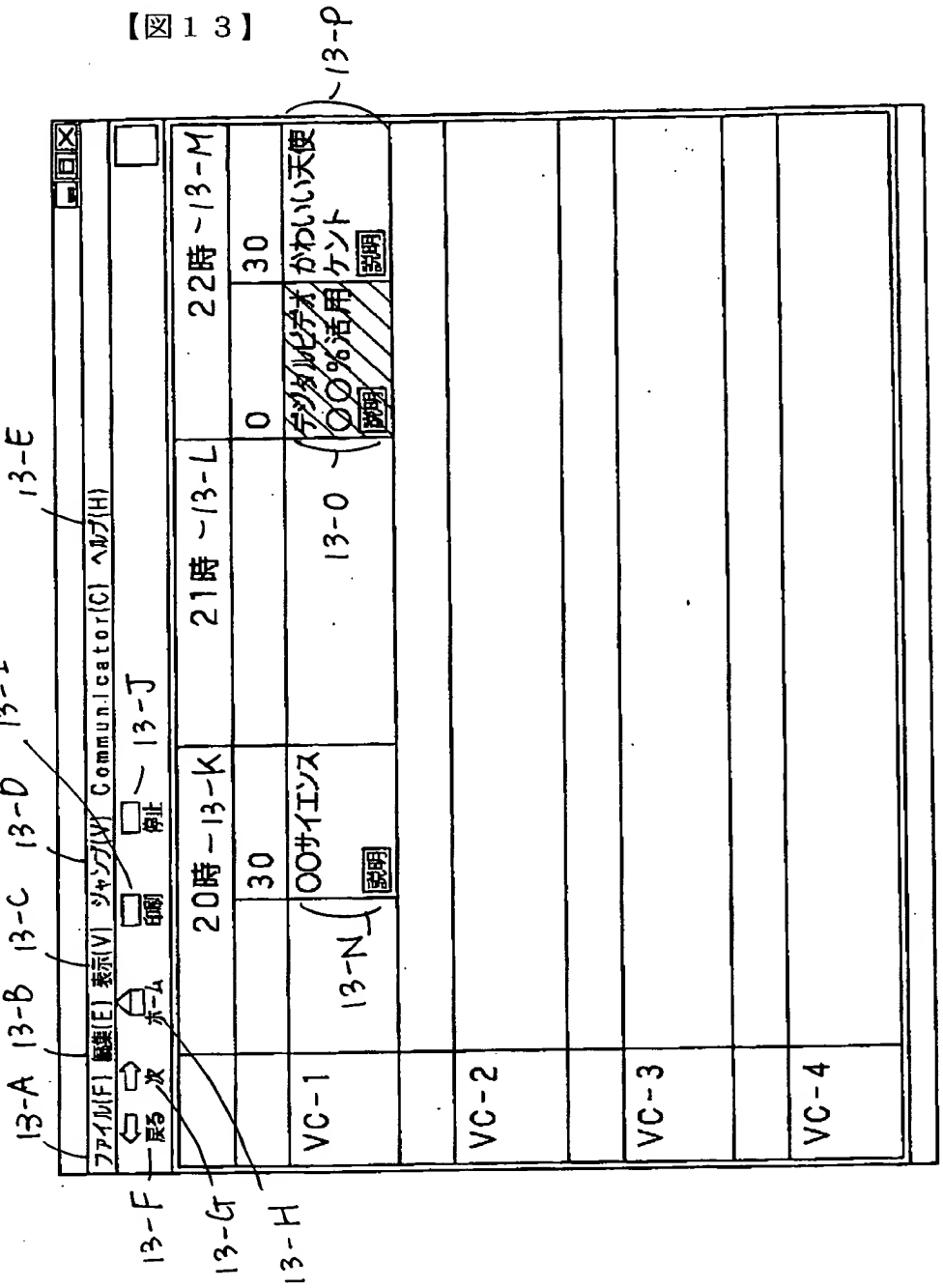
【図１１】


D
12
S58
グループ番組視聴傾向情報の
キーワードリストと２次テンポラリ番組群とを比較して一致
するものがあるかどうか？
NO
YES
S59
編成許容時間をこえていないか？
NO
YES
S60
NO
仮想チャンネルに編成可能かどうか？
YES
仮想番組表に配置する
S61
仮想チャンネルに編成された番組を
２次テンポラリ番組群から削除する
S62
S63
タイトルリスト，カテゴリーリストによる
編成を終了したかどうか？
YES
9
NO
S64
タイトルリストによる編成を優先させるかどうか？
NO
11
YES
10

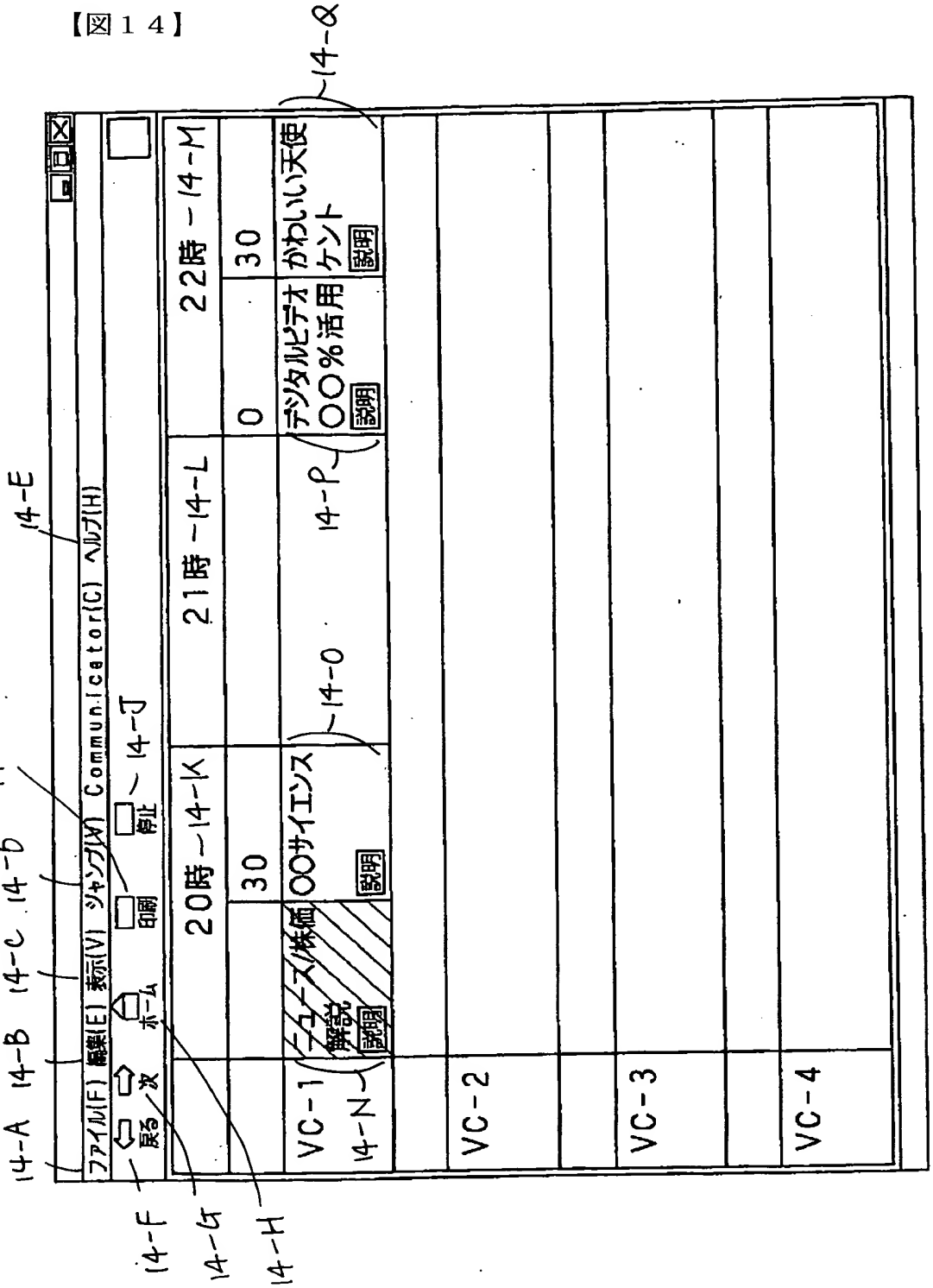
【図１２】


⑨
S65
ユーザ番組視聴傾向情報を
優先させたかどうか？
YES
③
NO
h←h+1
S66
S67
h−ST<t？
NO
END
YES
④

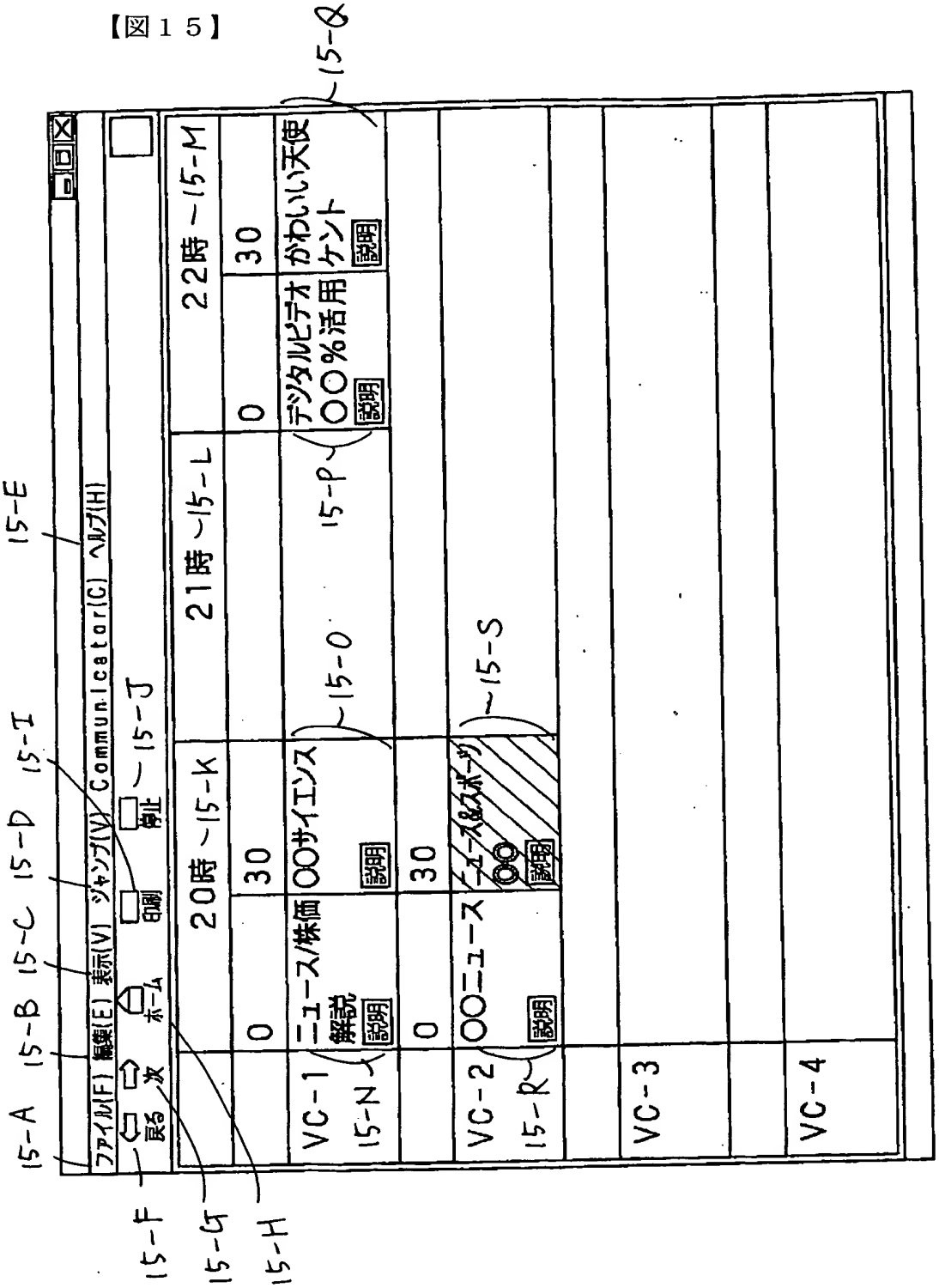
【図１３】


13-A
13-B
13-C
13-D
13-E
13-F
13-G
13-H
13-I
13-J
13-K
13-L
13-M
13-N
13-O
13-P
ファイル(F) 編集(E) 表示(V) ジャンプ(J) Communicator(C) ヘルプ(H)
戻る
次
ホーム
印刷
停止
20時～
21時～
22時～
30
0
30
VC-1
VC-2
VC-3
VC-4
OOサイエンス
デジタルビデオ
OO%活用
かわいい天使
ケント
実況
実況
実況

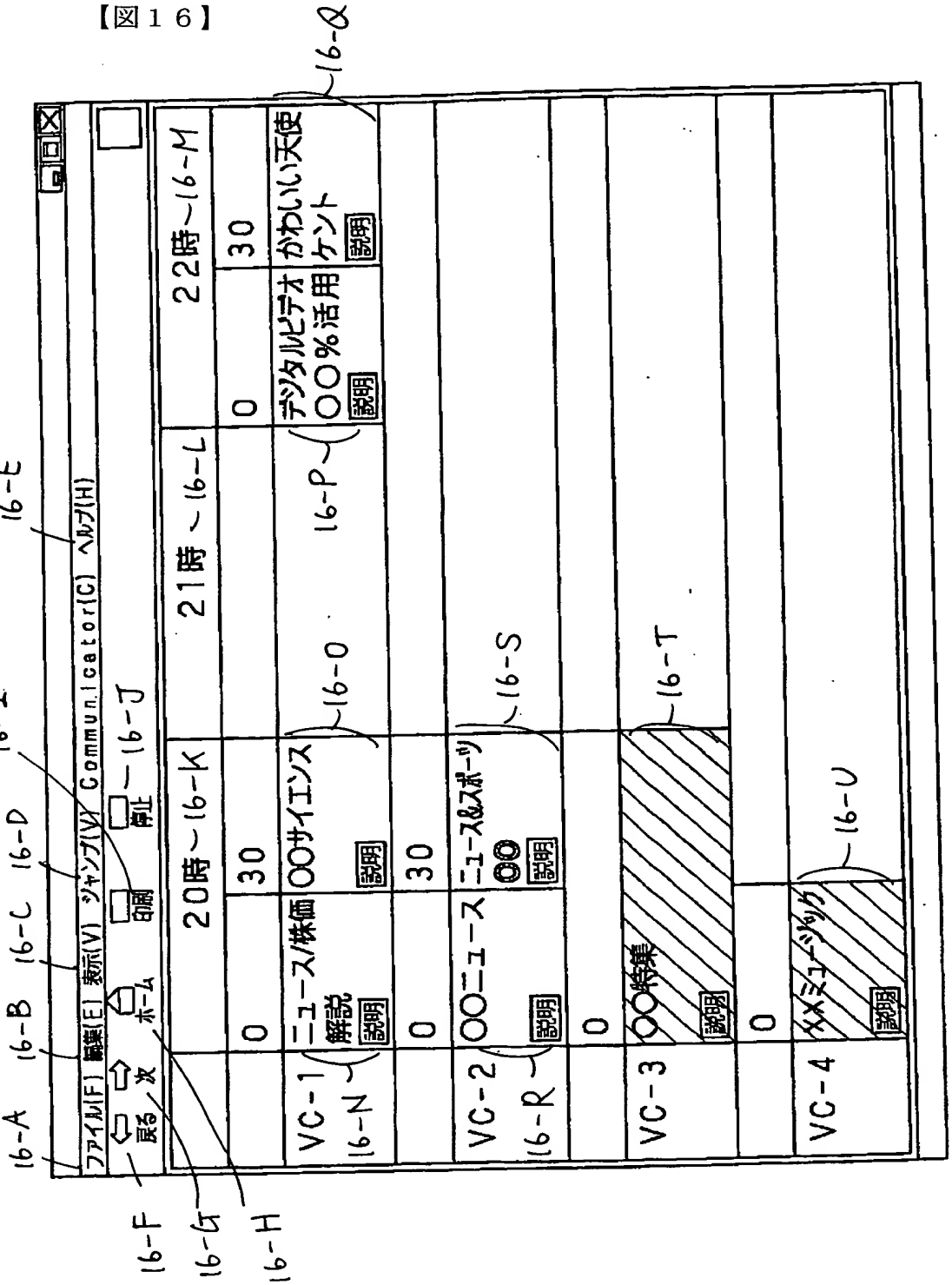
【図１４】


14-A
14-B
14-C
14-D
14-E
14-F
14-G
14-H
14-I
14-J
14-K
14-L
14-M
14-N
14-O
14-P
14-Q
ファイル(F) 編集(E) 表示(V) ジャンプ(J) Communicator(C) ヘルプ(H)
戻る
次
ホーム
印刷
停止
20時
21時
22時
30
0
30
VC-1
VC-2
VC-3
VC-4
ユーズ株価解説
OOサイエンス
デジタルビデオ００％活用
かわいい天使ケント
説明

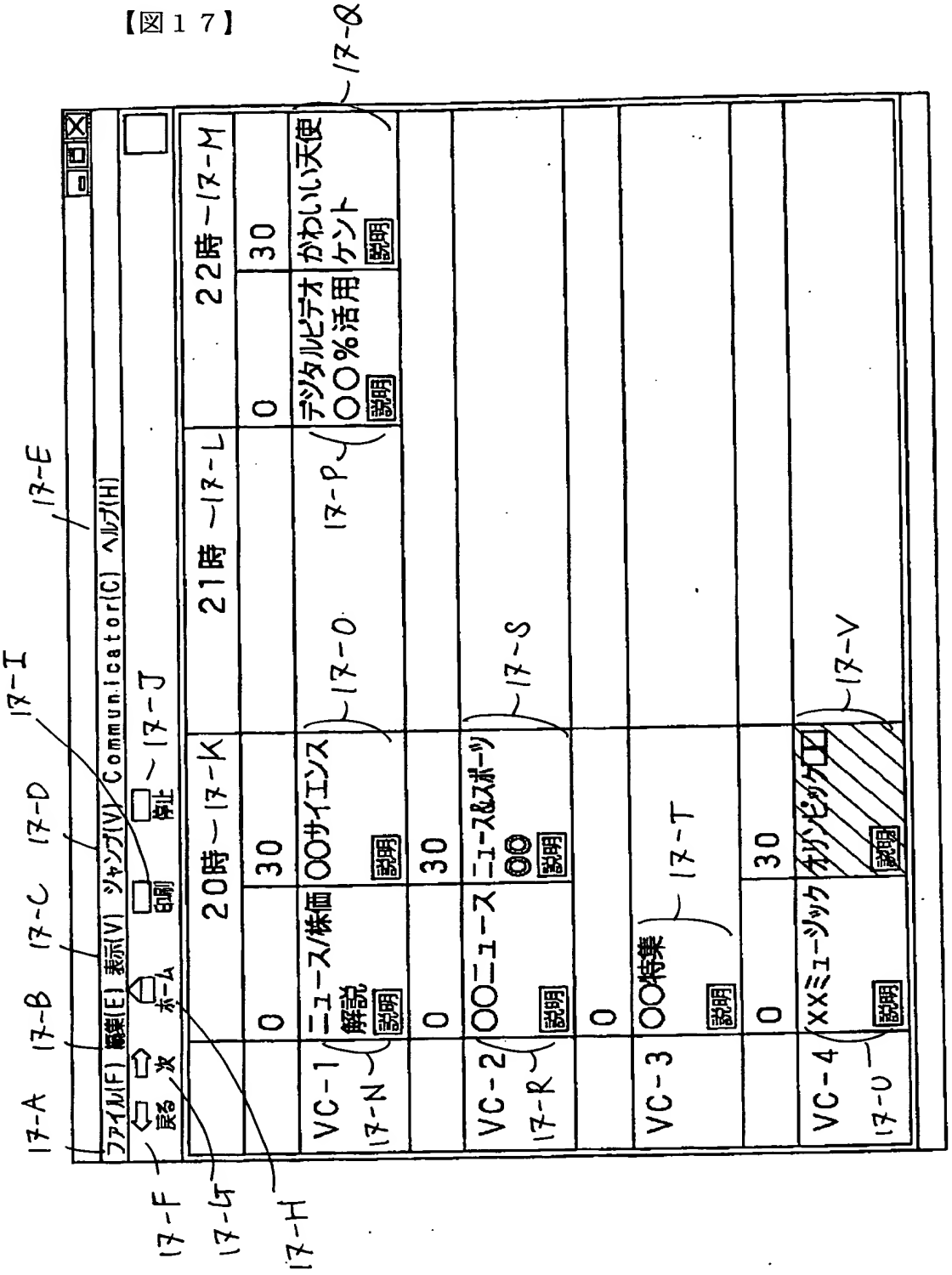
【図１５】


15-A
15-B
15-C
15-D
15-E
15-F
15-G
15-H
15-I
15-J
15-K
15-L
15-M
15-N
15-O
15-P
15-Q
15-R
15-S
ファイル(F) 編集(E) 表示(V) ジャンプ(V) Communicator(C) ヘルプ(H)
戻る
次
ホーム
印刷
停止
20時
21時
22時
0
30
VC-1
ニュース/株価解説
説明
OOサイエンス
デジタルビデオOO%活用
かわいい天使ケント
VC-2
OOニュース
スポーツ
VC-3
VC-4

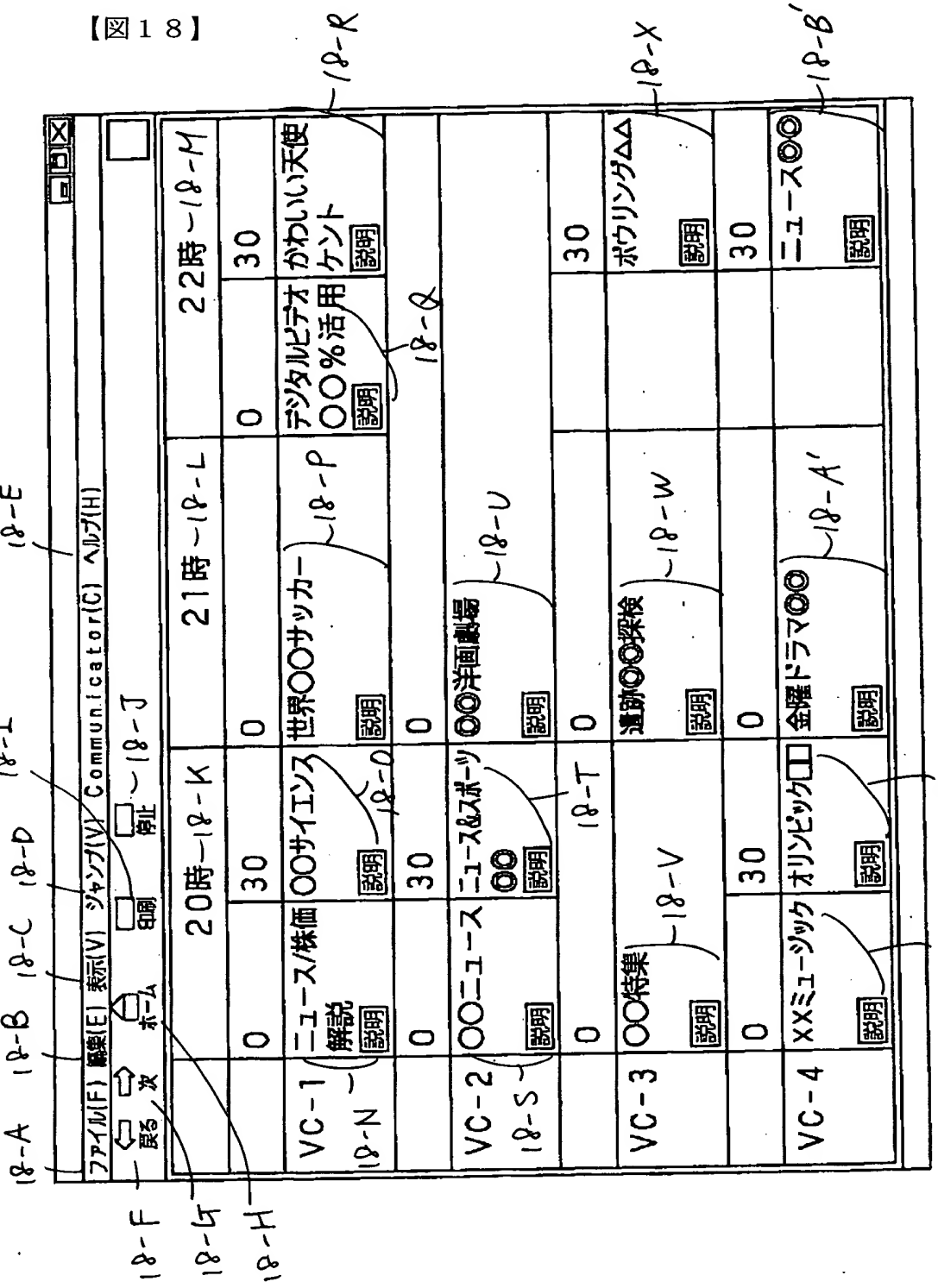
【図１６】


16-A
16-B
16-C
16-D
16-E
16-F
16-G
16-H
16-I
16-J
16-K
16-L
16-M
16-N
16-O
16-P
16-Q
16-R
16-S
16-T
16-U
ファイル(F) 編集(E) 表示(V) ジャンプ(V) Communicator(C) ヘルプ(H)
戻る
次
ホーム
印刷
停止
20時～
21時～
22時～
0
30
VC-1
ニュース/株価
解説
説明
OOサイエンス
VC-2
OOニュース
ニュース&スポーツ
VC-3
OO特集
VC-4
イメージリング
デジタルビデオ
OO%活用
かわいい天使
ケント

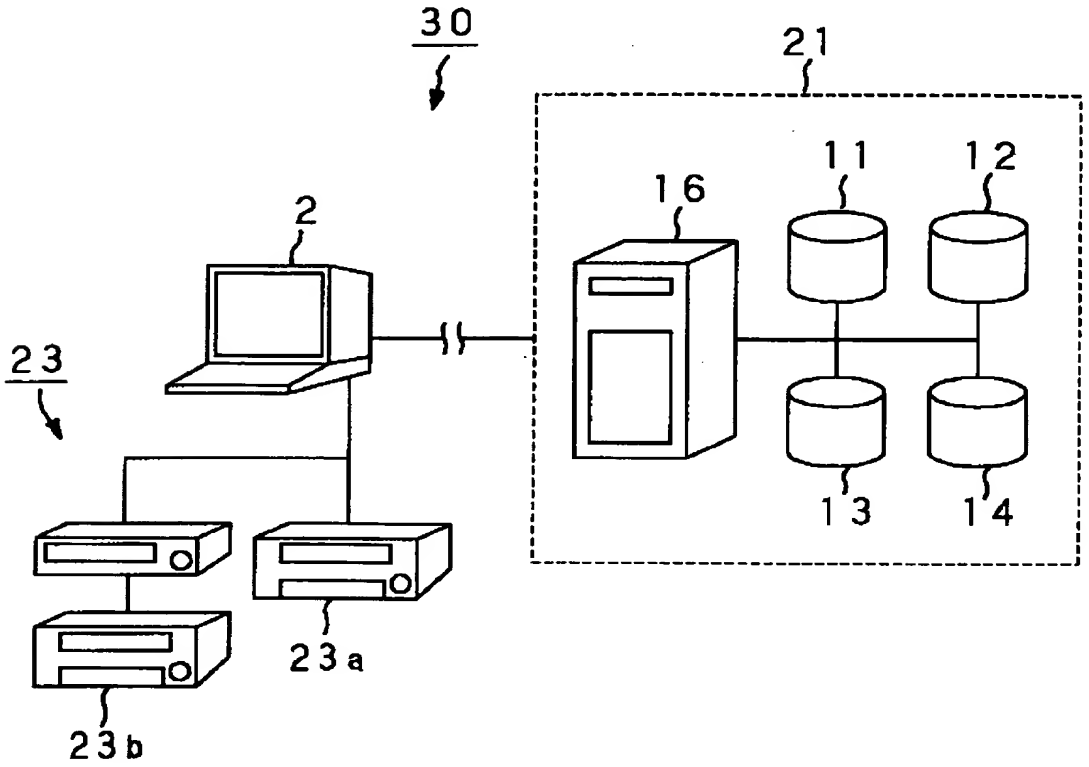
【図１７】


17-A
17-B
17-C
17-D
17-E
17-I
17-J
17-F
17-G
17-H
ファイル(F) 編集(E) 表示(V) ジャンプ(V) Communicator(C) ヘルプ(H)
戻る
次
ホーム
印刷
停止
20時～17-K
21時～17-L
22時～17-M
17-α
0
30
0
30
VC-1
ニュース/株価
解説
説明
17-N
OOサイエンス
17-O
17-P
デジタルビデオ
OO%活用
かわいい天使
ケント
VC-2
OOニュース
17-R
ニュース&スポーツ
OO
17-S
VC-3
OO特集
17-T
VC-4
XXミュージック
17-U
オリンピックOO
17-V

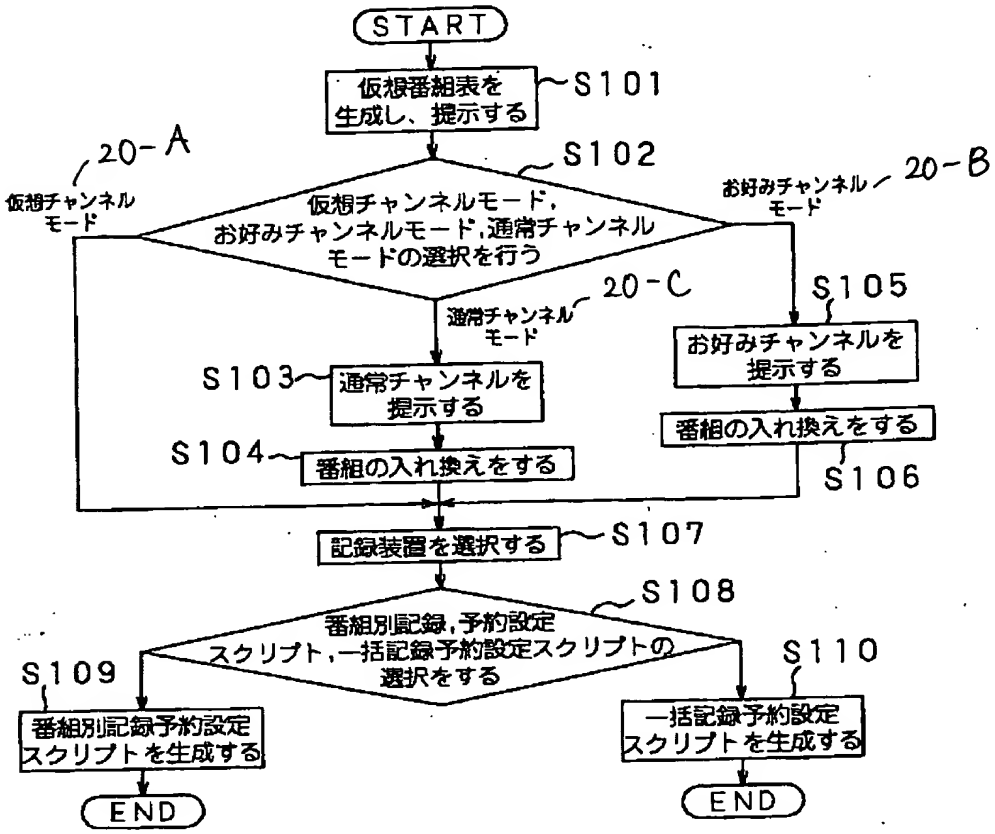
【図１８】


ファイル(F) 編集(E) 表示(V) ジャンプ(V) Communicator(C) ヘルプ(H)
戻る
次
ホーム
再開
停止
20時
21時
22時
VC-1
VC-2
VC-3
VC-4
ニュース/株価解説
OOサイエンス
世界OOサッカー
デジタルビデオOO%活用
かわいい天使ケント
OOニュース
ニュース&スポーツOO
OO洋画劇場
XXミュージック
オリンピック□
金曜ドラマOO
ニュースOO
OO特集
遺跡OO探検
ボウリングΔΔ
説明
18-A
18-B
18-C
18-D
18-E
18-F
18-G
18-H
18-I
18-J
18-K
18-L
18-M
18-N
18-O
18-P
18-Q
18-R
18-S
18-T
18-U
18-V
18-W
18-X
18-Y
18-Z
18-A'
18-B'

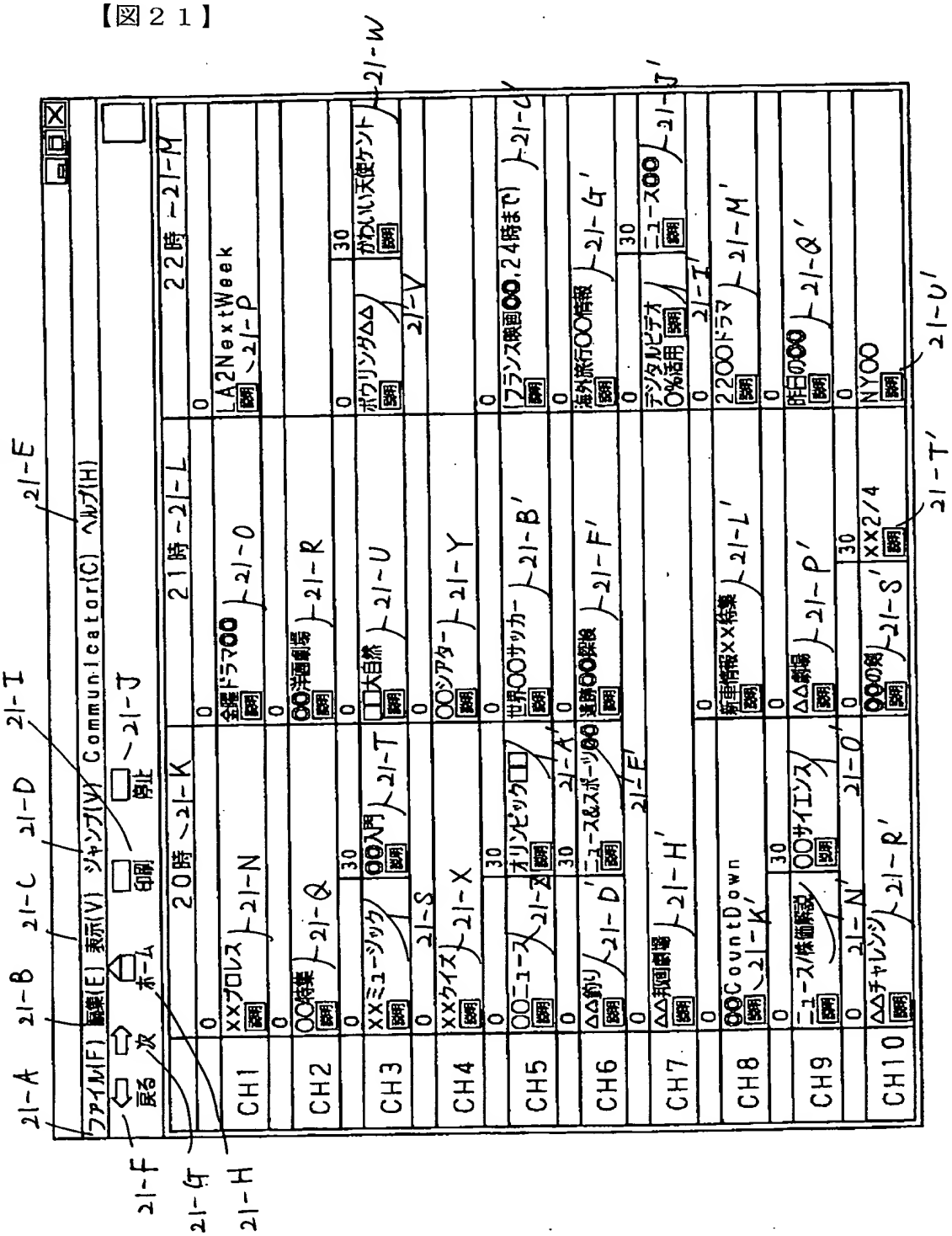
【図１９】



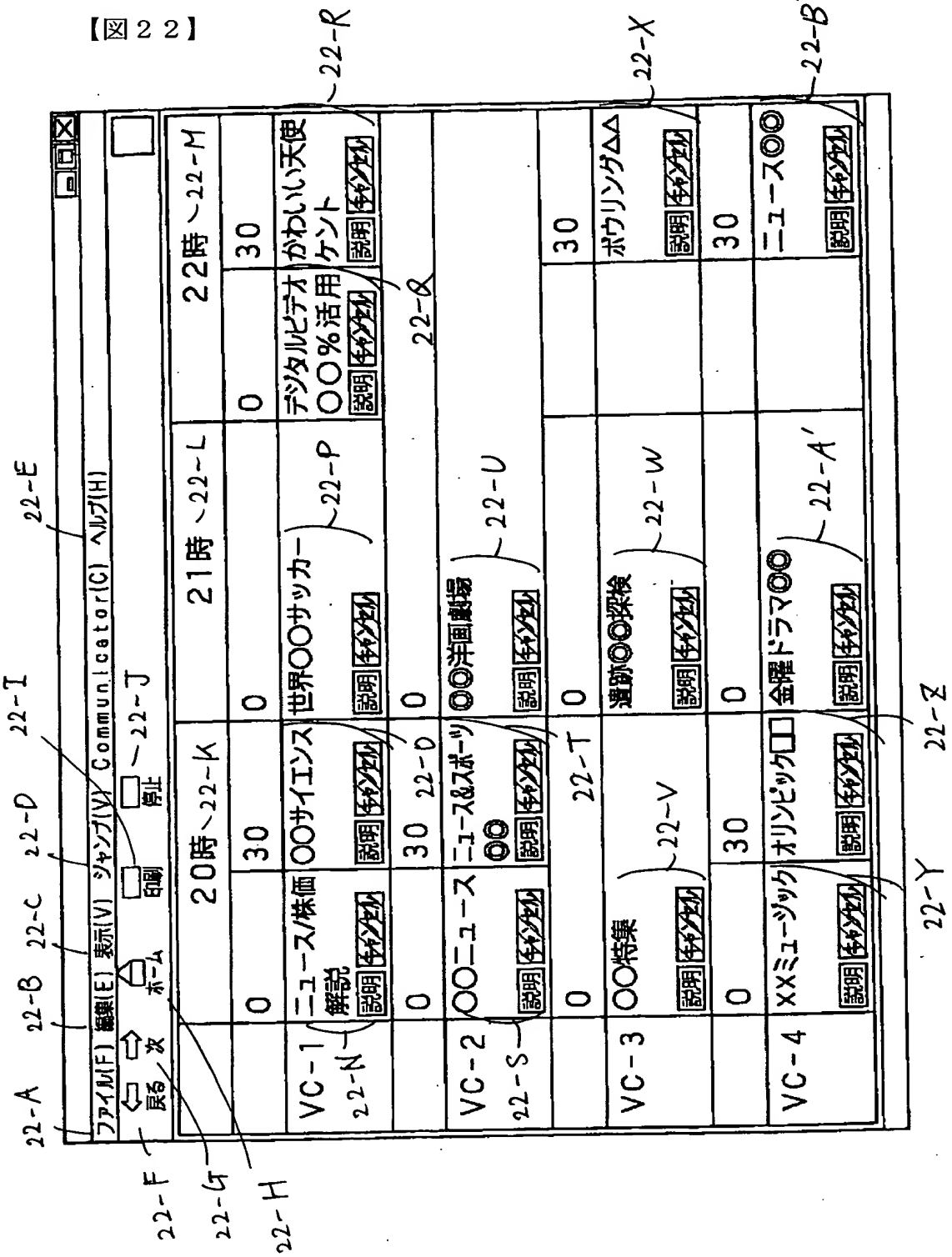
【図２０】


START
仮想番組表を生成し、提示する
S101
S102
20-A
仮想チャンネルモード
仮想チャンネルモード，お好みチャンネルモード，通常チャンネルモードの選択を行う
お好みチャンネルモード
20-B
通常チャンネルモード
20-C
S105
お好みチャンネルを提示する
S103
通常チャンネルを提示する
番組の入れ換えをする
S104
番組の入れ換えをする
S106
記録装置を選択する
S107
S108
番組別記録，予約設定スクリプト，一括記録予約設定スクリプトの選択をする
S109
S110
番組別記録予約設定スクリプトを生成する
一括記録予約設定スクリプトを生成する
END
END

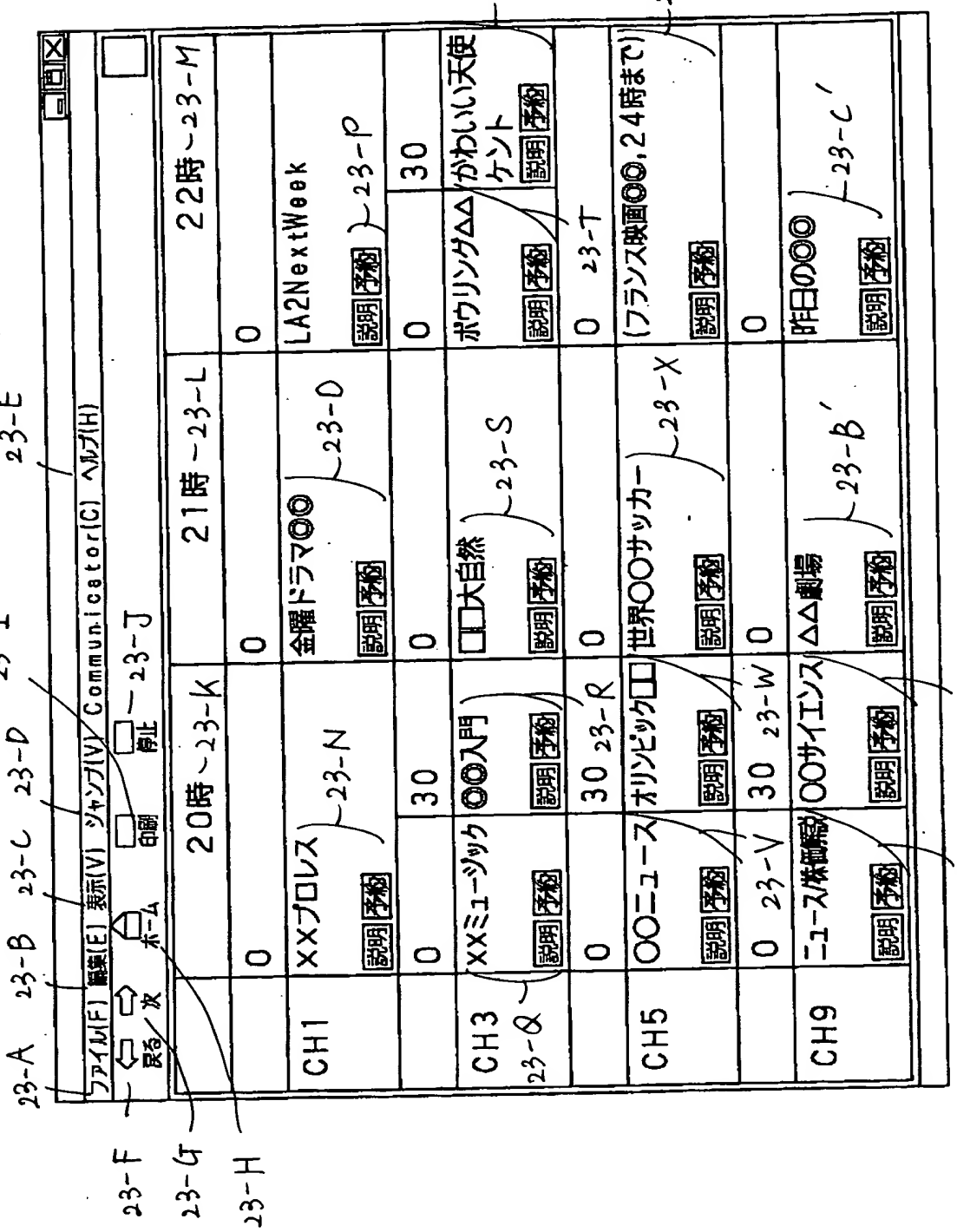
【図２１】


ファイル(F) 編集(E) 表示(V) ジャンプ(J) Communicator(C) ヘルプ(H)
戻る
次
ホーム
印刷
停止
20時～21-K
21時-21-L
22時-21-M
CH1
CH2
CH3
CH4
CH5
CH6
CH7
CH8
CH9
CH10
XXプロレス 21-N
金曜ドラマOO 21-O
LA2NextWeek 21-P
OO特集 21-Q
OO洋画劇場 21-R
XXミュージック
OO入門 21-T
□□大自然 21-U
ボウリングΔΔ 21-V
かわいい天使ケント 21-W
XXクイズ 21-X
OOシアター 21-Y
OOニュース 21-Z
オリンピック□□ 21-A'
世界OOサッカー 21-B'
フランス映画OO,24時まで 21-C'
ニュース&スポーツOO 21-D'
速報OO解説 21-E'
海外旅行OO情報 21-F'
ΔΔ釣り 21-G'
ΔΔ劇場 21-H'
デジタルビデオ0%活用
ニュースOO 21-I'
新車情報XX特集 21-J'
2200ドラマ 21-K'
OOCountDown 21-L'
昨日のOO 21-M'
ニュース/株価解説
OOサイエンス 21-N'
ΔΔ劇場 21-O'
昨日のOO 21-P'
ΔΔチャレンジ 21-Q'
OOの剣 21-R'
XX2/4 21-S'
NYOO 21-T'
21-U'
21-A
21-B
21-C
21-D
21-E
21-F
21-G
21-H
21-I
21-J

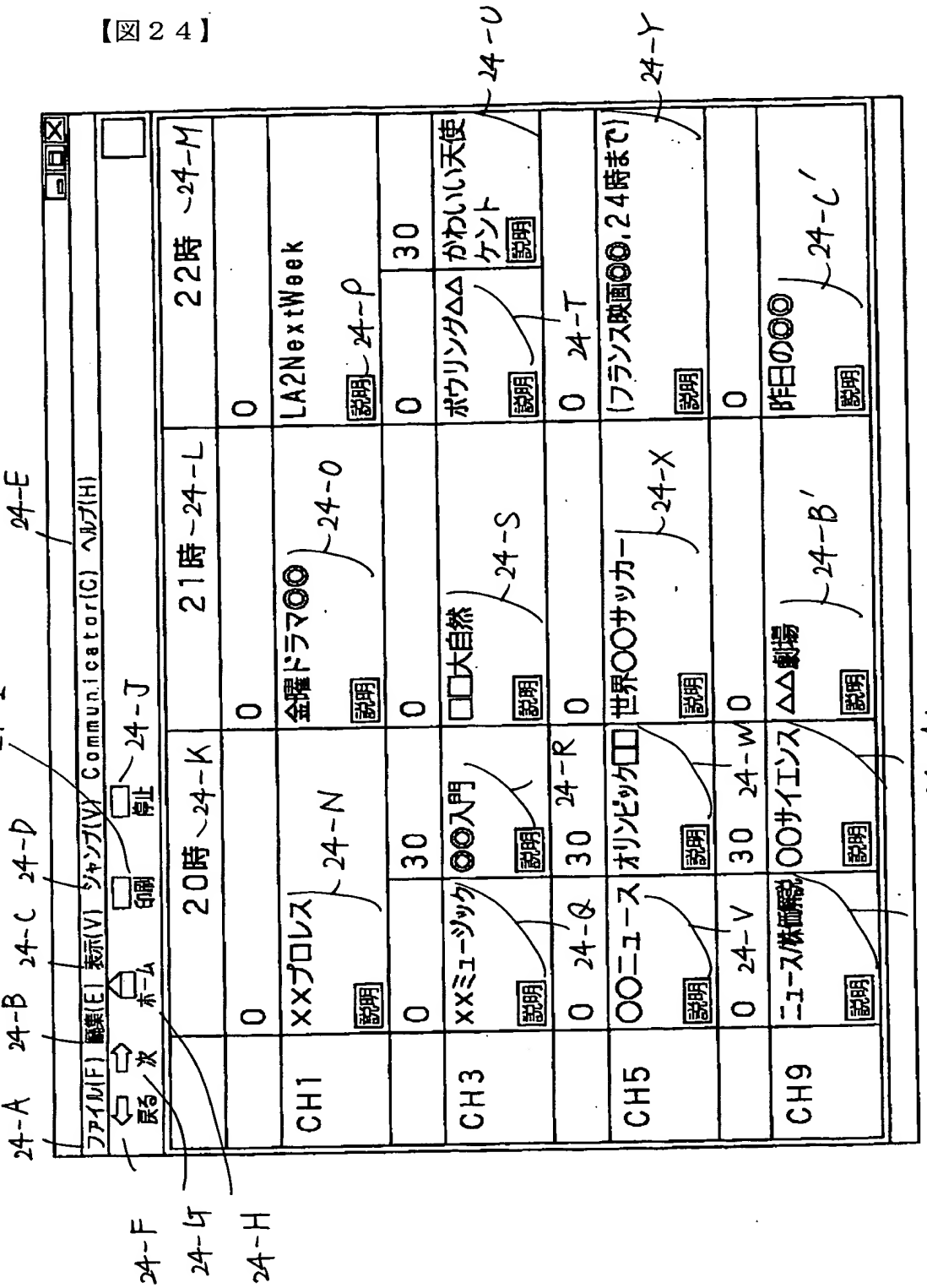
【図２２】


ファイル(F) 編集(E) 表示(V) ジャンプ(V) Communicator(C) ヘルプ(H)
戻る
次
ホーム
印刷
停止
20時～22-K
21時～22-L
22時～22-M
VC-1
VC-2
VC-3
VC-4
ニュース/株価解説
OOサイエンス
世界OOサッカー
デジタルビデオOO%活用ケント
かわいい天使
OOニュース
ニュース&スポーツOO
OO洋画劇場
OO特集
XXミュージック
オリンピックOO
金曜ドラマOO
遺跡OO探検
ボウリングΔΔ
ニュースOO
説明
チャンネル
22-A
22-B
22-C
22-D
22-E
22-F
22-G
22-H
22-I
22-J
22-N
22-S
22-P
22-U
22-R
22-Q
22-O
22-T
22-V
22-W
22-X
22-A'
22-B'
22-Y
22-Z

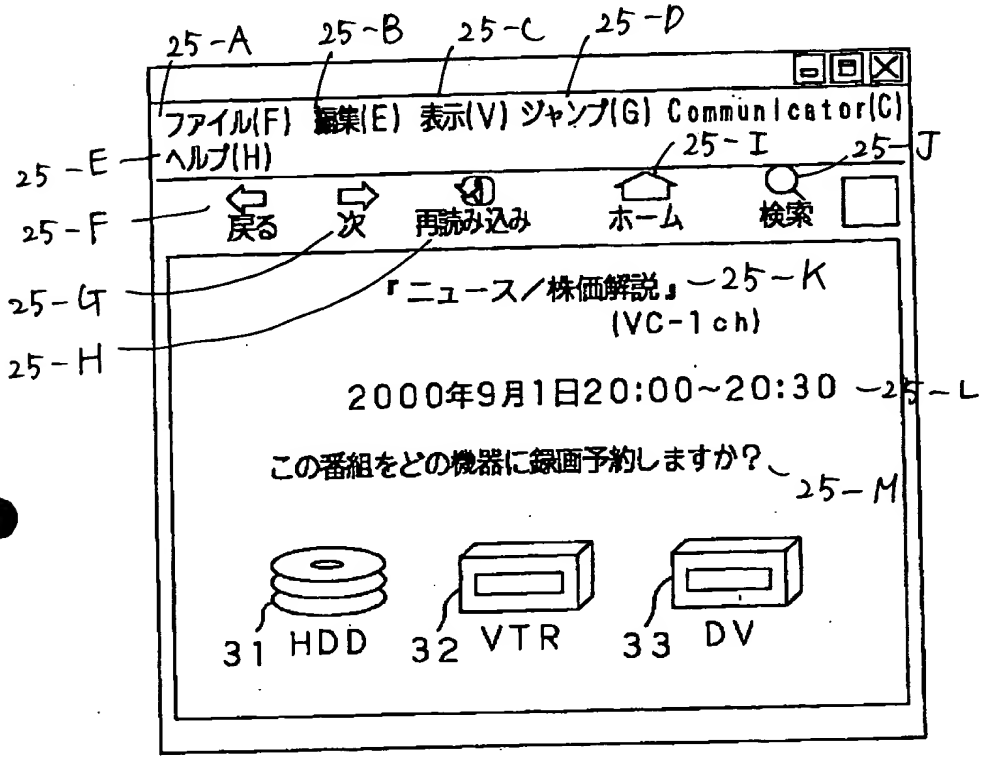
【図２３】


ファイル(F) 編集(E) 表示(V) ジャンプ(V) Communicator(C) ヘルプ(H)
戻る
次
ホーム
印刷
停止
20時～23-K
21時～23-L
22時～23-M
CH1
CH3
CH5
CH9
XXプロレス
XXミュージック
○○入門
金曜ドラマ○○
□□大自然
オリンピック□
世界○○サッカー
LA2NextWeek
ボウリング△△
かわいい天使ケント
(フランス映画○○,24時まで)
昨日の○○
ニュース/株価速報
○○サイエンス
△△劇場
説明
予約
23-A
23-B
23-C
23-D
23-E
23-F
23-G
23-H
23-I
23-J
23-N
23-O
23-P
23-Q
23-R
23-S
23-T
23-U
23-V
23-W
23-X
23-Y
23-Z
23-A'
23-B'
23-C'

【図２４】


ファイル(F) 編集(E) 表示(V) ジャンプ(V) Communicator(C) ヘルプ(H)
戻る
次
ホーム
印刷
停止
20時
21時
22時
CH1
CH3
CH5
CH9
XXプロレス
金曜ドラマ○○
LA2NextWeek
XXミュージック
○○入門
□□大自然
かわいい天使ケント
○○ニュース
オリンピック□□
世界○○サッカー
(フランス映画○○,24時まで)
ニュース/株価情報
○○サイエンス
△△劇場
昨日の○○
説明
24-A
24-B
24-C
24-D
24-E
24-F
24-G
24-H
24-I
24-J
24-K
24-L
24-M
24-N
24-O
24-P
24-Q
24-R
24-S
24-T
24-U
24-V
24-W
24-X
24-Y
24-Z
24-A'
24-B'
24-C'

【図２５】



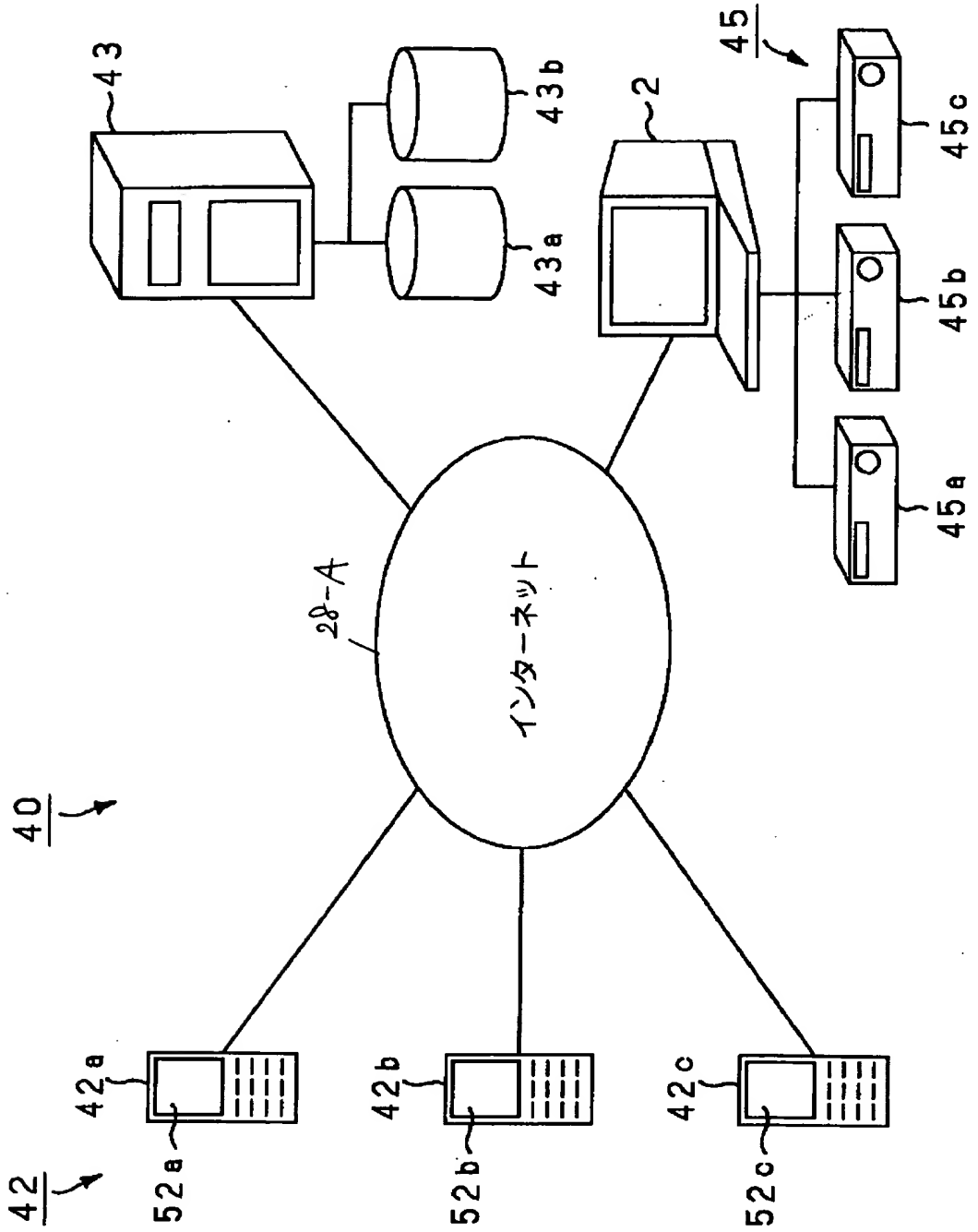
【図２６】

番組記録予約設定スクリプトはじめ：26-A
コマンドID、記録デバイスID、インフラID、チャンネル、放送開始時間、放送終了 26-B
時間、タイトル1 26-C
番組記録予約設定スクリプト終わり：26-D
番組記録予約設定スクリプトはじめ：26-E
コマンドID、記録デバイスID、インフラID、チャンネル、放送開始時間、放送終了 26-F
時間、タイトル2 26-G
番組記録予約設定スクリプト終わり：26-H

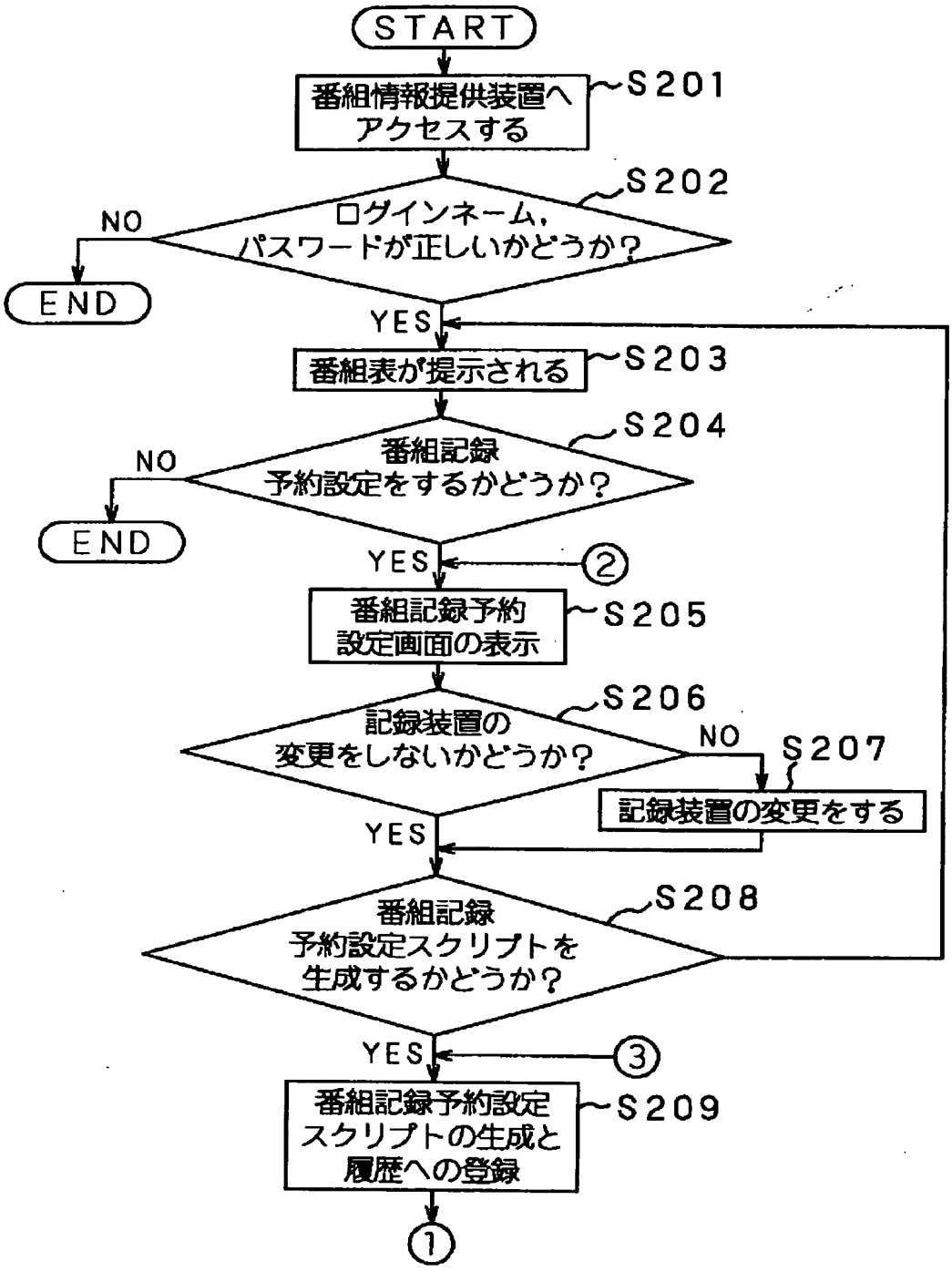
【図２７】

番組記録予約設定スクリプトはじめ：～27-A
記録デバイスID1：～27-B
コマンドID、インフラID、チャンネル、放送開始時間、放送終了時間、タイトル11 ～27-C
コマンドID、インフラID、チャンネル、放送開始時間、放送終了時間、タイトル12 ～27-D
記録デバイスID2：～27-E
コマンドID、インフラID、チャンネル、放送開始時間、放送終了時間、タイトル21 ～27-F
コマンドID、インフラID、チャンネル、放送開始時間、放送終了時間、タイトル22 ～27-G
番組記録予約設定スクリプト終わり：～27-H

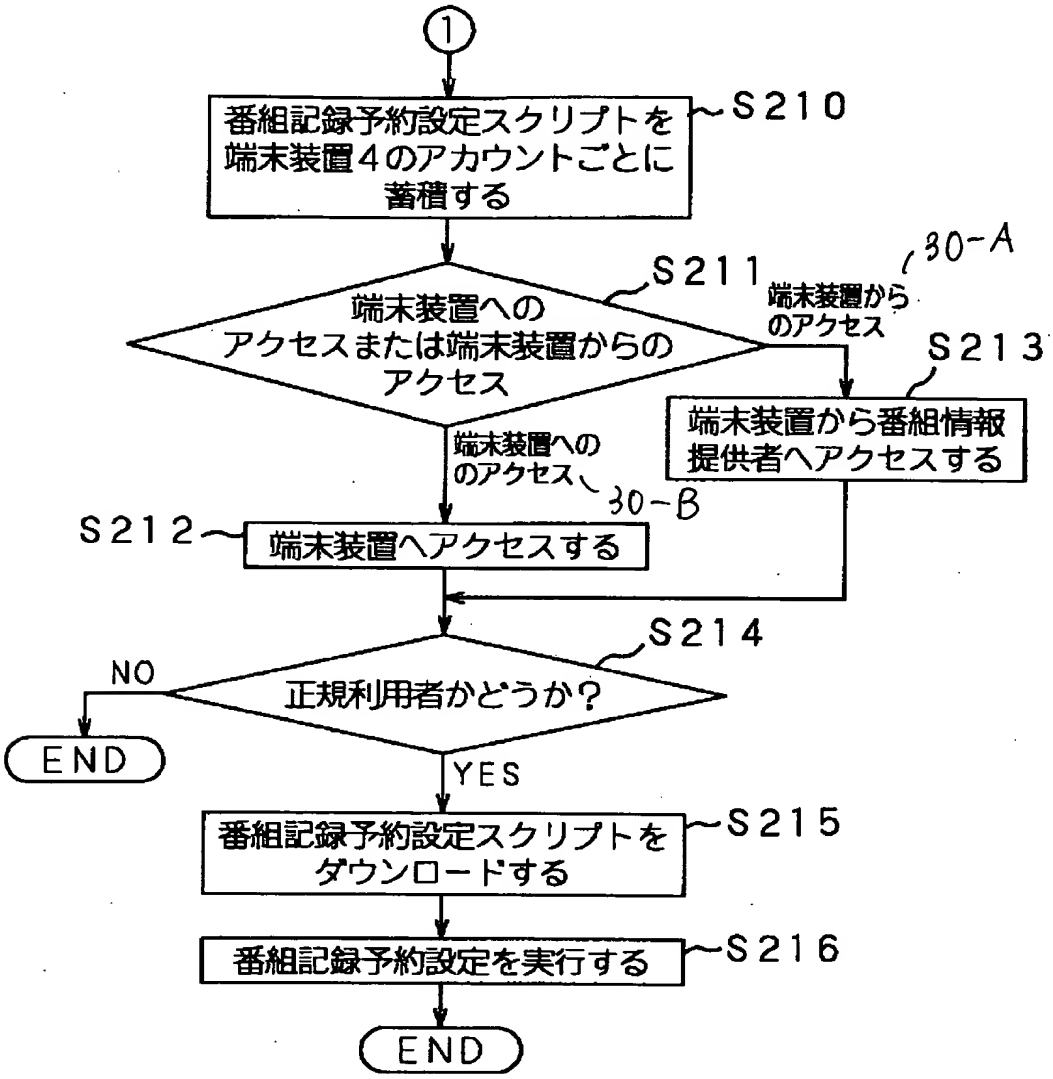
【図２８】


43
43b
43a
2
45
45c
45b
45a
インターネット
28-A
40
42
42a
42b
42c
52a
52b
52c

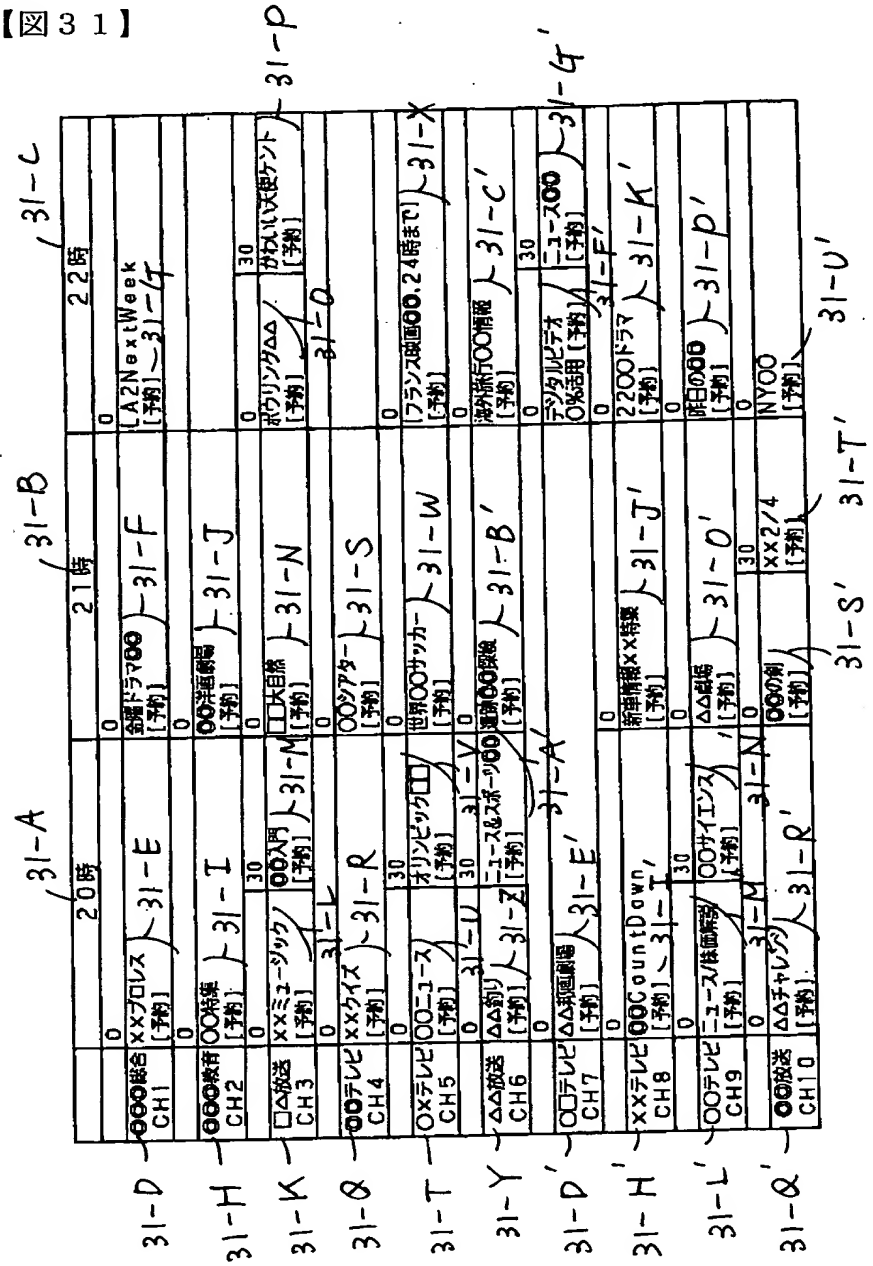
【図２９】


START
番組情報提供装置へアクセスする
S201
ログインネーム，パスワードが正しいかどうか？
S202
NO
END
YES
番組表が提示される
S203
番組記録予約設定をするかどうか？
S204
NO
END
YES
②
番組記録予約設定画面の表示
S205
記録装置の変更をしないかどうか？
S206
NO
S207
記録装置の変更をする
YES
番組記録予約設定スクリプトを生成するかどうか？
S208
YES
③
番組記録予約設定スクリプトの生成と履歴への登録
S209
①

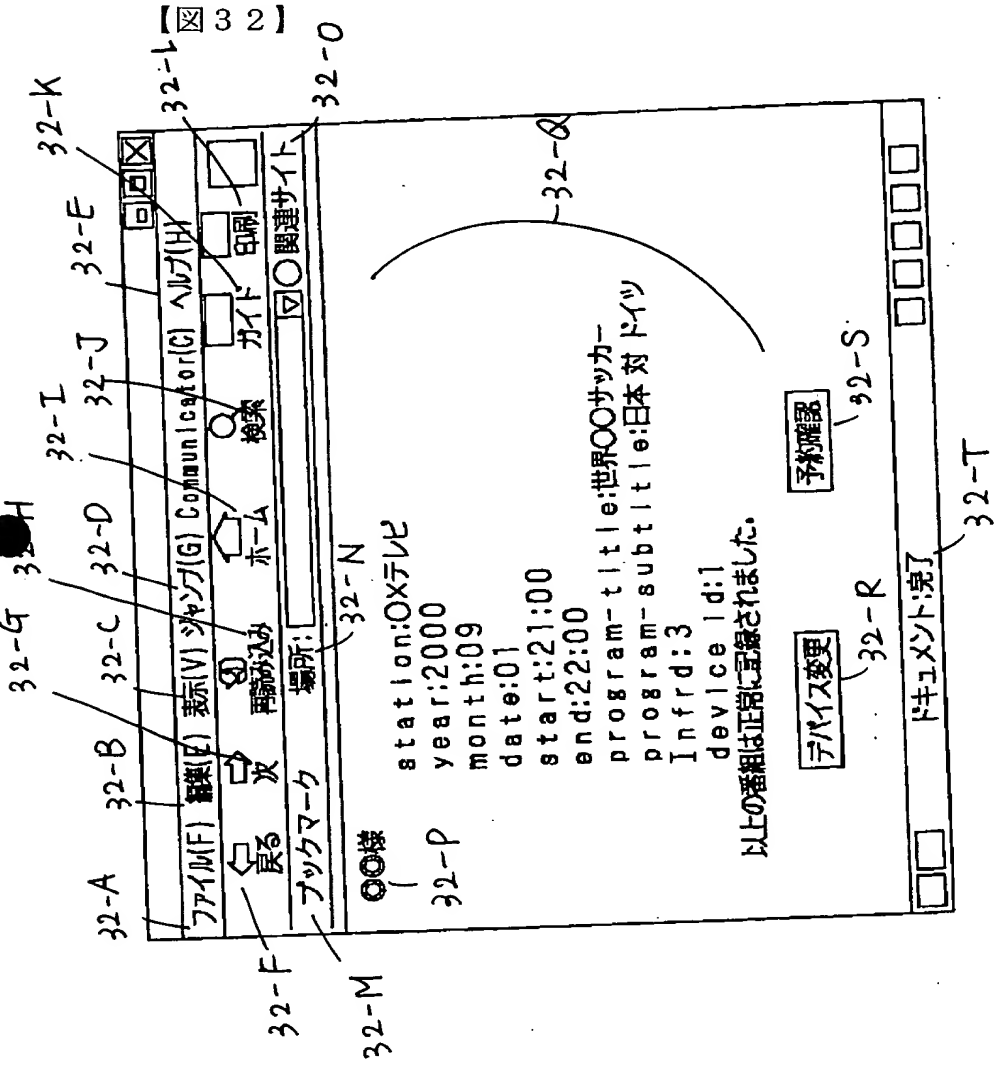
【図３０】


①
番組記録予約設定スクリプトを端末装置４のアカウントごとに蓄積する
S210
端末装置へのアクセスまたは端末装置からのアクセス
S211
30-A
端末装置からのアクセス
S213
端末装置から番組情報提供者へアクセスする
端末装置へのアクセス
30-B
S212
端末装置へアクセスする
S214
正規利用者かどうか？
NO
END
YES
番組記録予約設定スクリプトをダウンロードする
S215
番組記録予約設定を実行する
S216
END

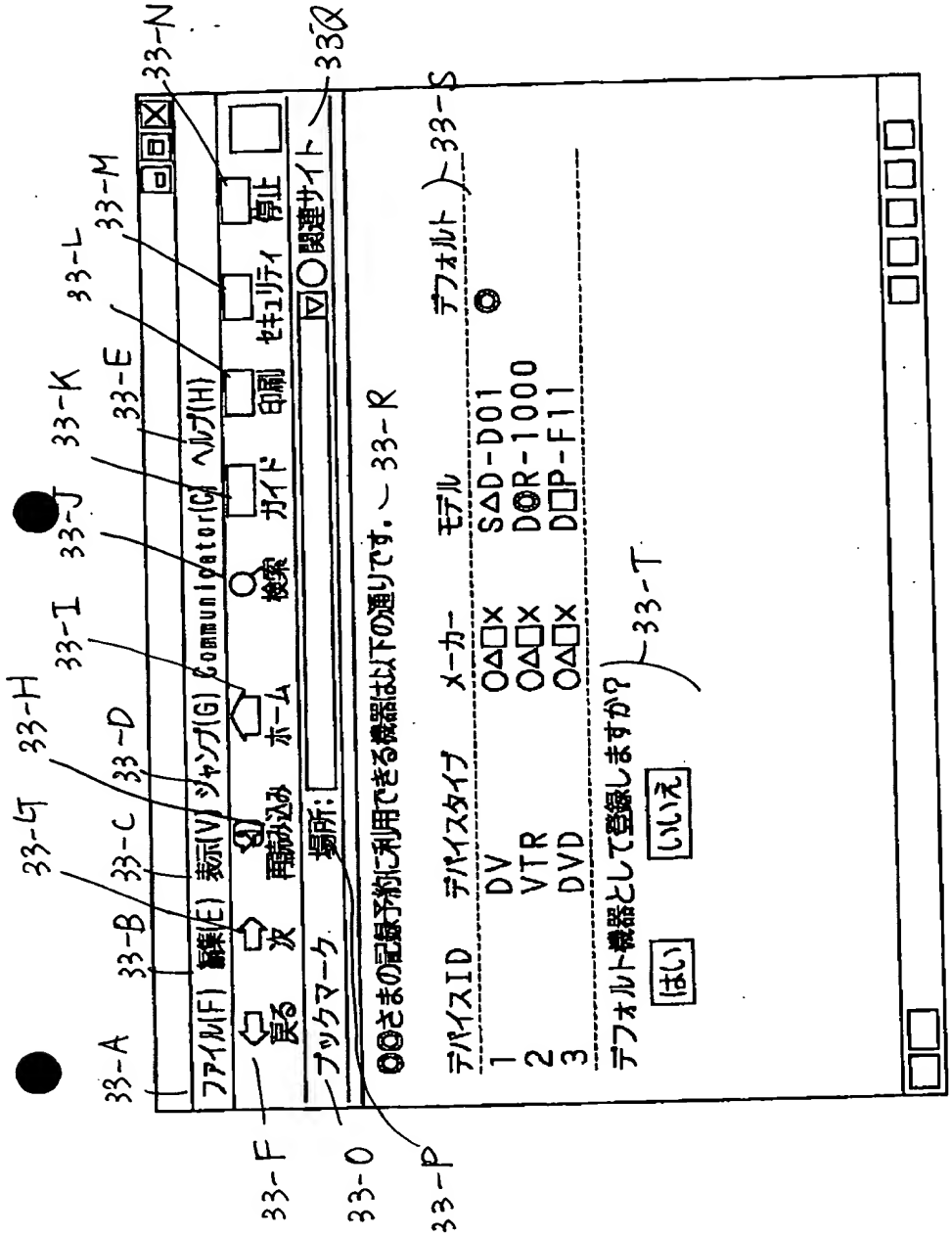
【図３１】


20時
21時
22時
31-A
31-B
31-C
31-P
31-D
31-H
31-K
31-Q
31-T
31-Y
31-D'
31-H'
31-L'
31-Q'
31-E
31-F
31-I
31-J
31-N
31-R
31-S
31-W
31-B'
31-C'
31-A'
31-E'
31-F'
31-J'
31-K'
31-O'
31-P'
31-R'
31-S'
31-T'
31-U'
31-G
31-L
31-M
31-N
31-O
31-X
31-Z
31-G'
31-U
31-V
31-T'
31-U'
0
30
[A2Next Week [予約]
ボウリング△△ [予約]
[フランス映画00.24時まで] [予約]
海外旅行00情報 [予約]
デジタルビデオ 00&活用 [予約]
ニュース00 [予約]
2200ドラマ [予約]
昨日の00 [予約]
NY00 [予約]
金曜ドラマ00 [予約]
世界00サッカー [予約]
新車情報××特集 [予約]
△△劇場 [予約]
00の剣 [予約]
××2/4 [予約]
00洋画劇場 [予約]
□□大自然 [予約]
00入門 [予約]
オリンピック□□ [予約]
ニュース&スポーツ00 [予約]
00ニュース [予約]
00サイエンス [予約]
00Countdown [予約]
××ミュージック [予約]
××クイズ [予約]
××プロレス [予約]
△△釣り [予約]
△△劇場 [予約]
△△チャレンジ [予約]
000総合 CH1
000教育 CH2
□△放送 CH3
00テレビ CH4
○×テレビ CH5
△△放送 CH6
□□テレビ CH7
××テレビ CH8
○○テレビ CH9
00放送 CH10

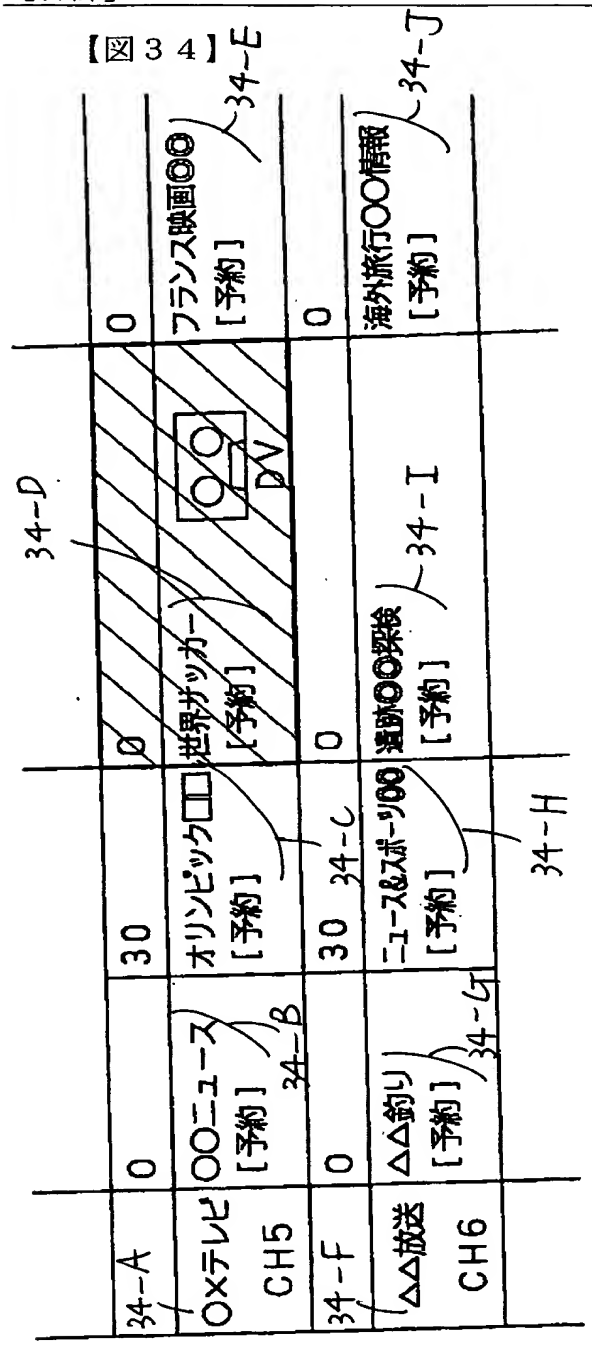
【図３２】


32-A
32-B
32-C
32-D
32-E
32-F
32-G
32-H
32-I
32-J
32-K
32-L
32-M
32-N
32-O
32-P
32-Q
32-R
32-S
32-T
ファイル(F) 編集(E) 表示(V) ジャンプ(G) Communicator(C) ヘルプ(H)
戻る
次
再読み込み
ホーム
検索
ガイド
印刷
関連サイト
ブックマーク
場所:
○○様
station:○×テレビ
year:2000
month:09
date:01
start:21:00
end:22:00
program-title:世界○○サッカー
program-subtitle:日本 対 ドイツ
Infrd:3
devlce id:1
以上の番組は正常に記録されました。
デバイス変更
予約確認
ドキュメント:完了

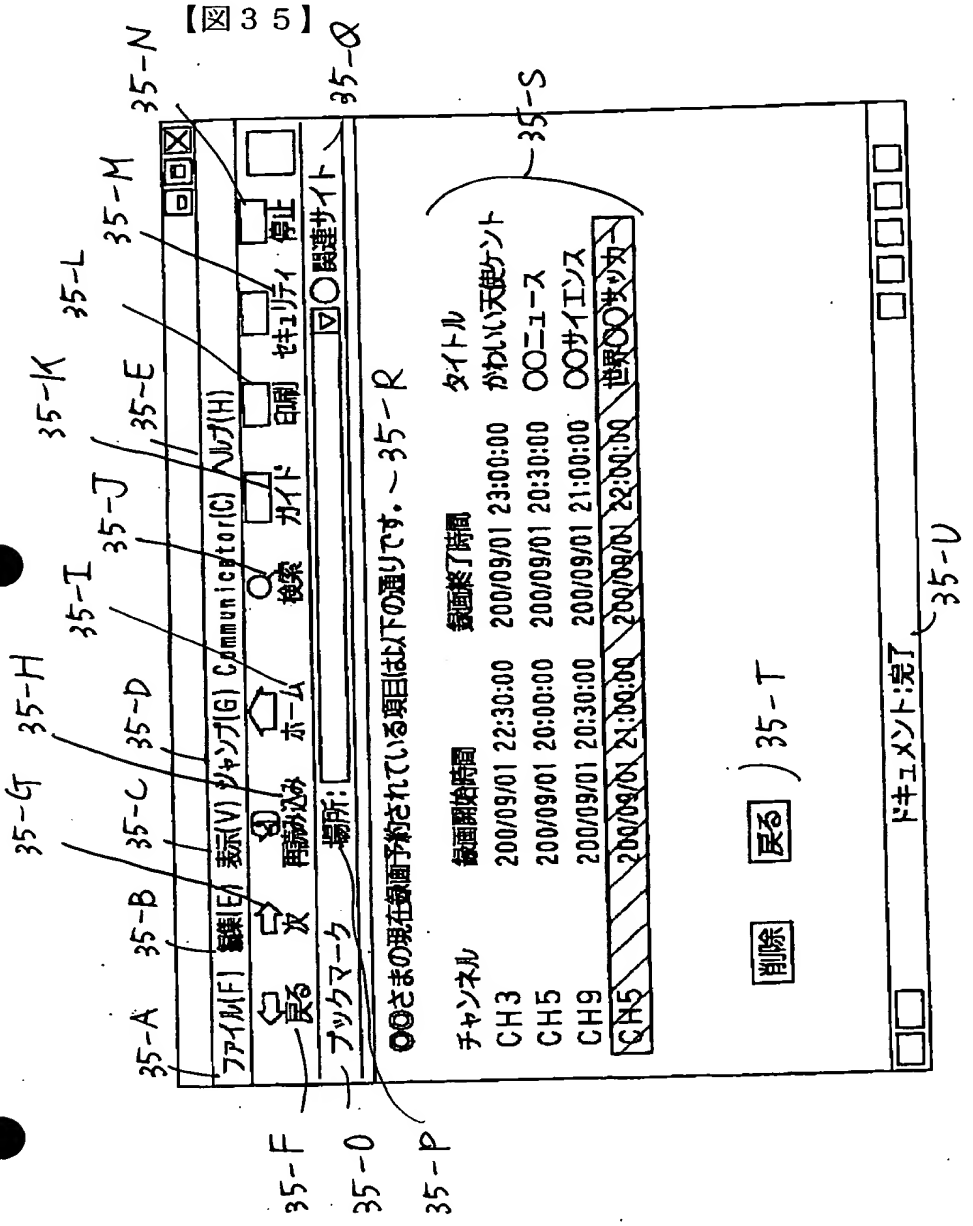
【図３３】


33-A
33-B
33-C
33-D
33-E
33-F
33-G
33-H
33-I
33-J
33-K
33-L
33-M
33-N
33-O
33-P
33-Q
33-R
33-S
33-T
ファイル(F) 編集(E) 表示(V) ジャンプ(G) Communicator(C) ヘルプ(H)
戻る
次
再読込み
ホーム
検索
ガイド
印刷
セキュリティ
停止
関連サイト
ブックマーク
場所:
○○さまの記録予約に利用できる機器は以下の通りです。
デバイスID　デバイスタイプ　メーカー　モデル　デフォルト
1　DV　○△□x　S△D-D01
2　VTR　○△□x　D◎R-1000
3　DVD　○△□x　D□P-F11
デフォルト機器として登録しますか？
はい
いいえ

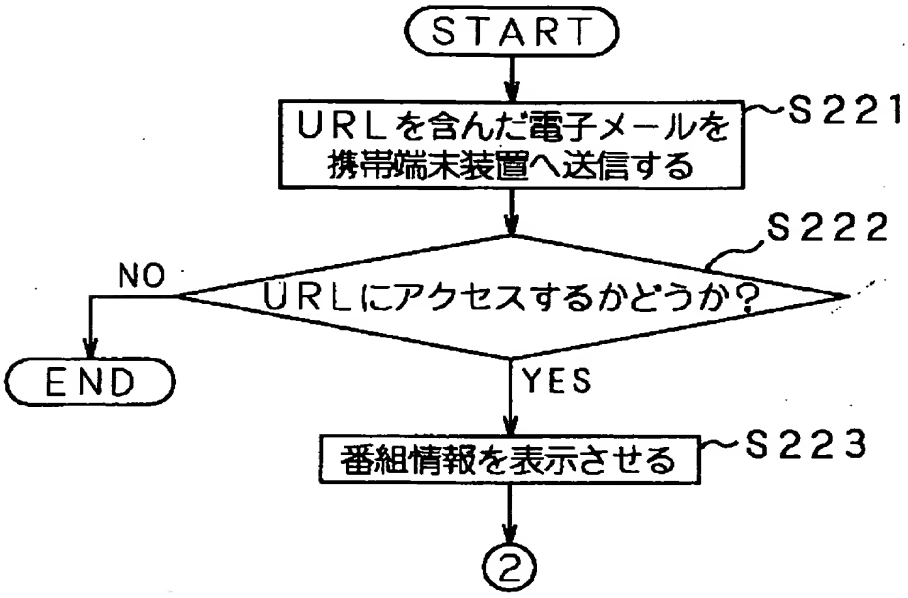
【図３４】


34-A
34-B
34-C
34-D
34-E
34-F
34-G
34-H
34-I
34-J
0
30
0
30
0
0
0
OOニュース
[予約]
オリンピック□□
[予約]
世界サッカー
[予約]
DV
フランス映画◎◎
[予約]
ΔΔ釣り
[予約]
ニュース&スポーツ00
[予約]
遺跡○○探検
[予約]
海外旅行○○情報
[予約]
○×テレビ
CH5
ΔΔ放送
CH6

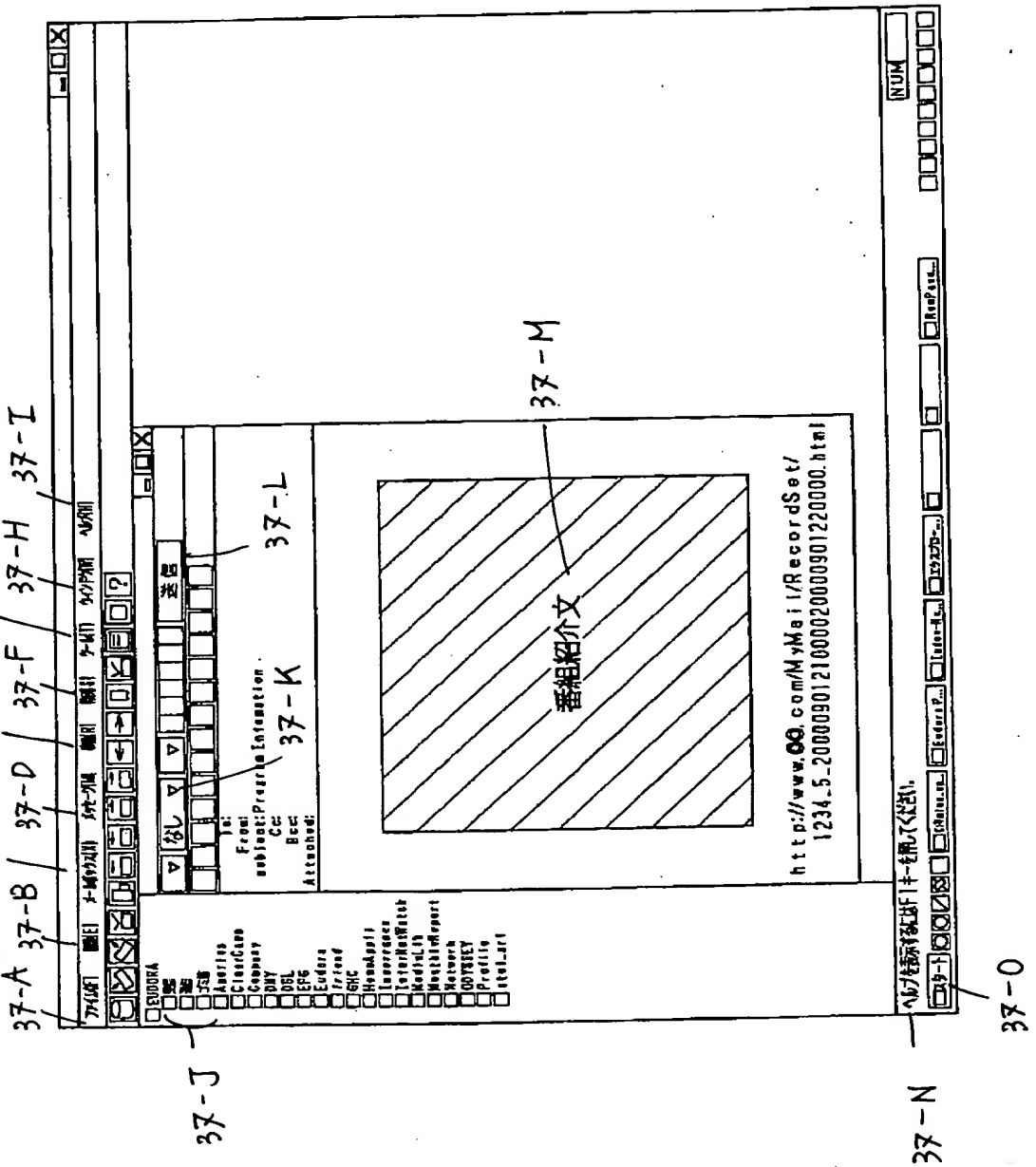
【図３５】


35-A
35-B
35-C
35-D
35-E
35-F
35-G
35-H
35-I
35-J
35-K
35-L
35-M
35-N
35-O
35-P
35-Q
35-R
35-S
35-T
35-U
ファイル(F) 編集(E) 表示(V) ジャンプ(G) Communicator(C) ヘルプ(H)
戻る
次
再読み込み
ホーム
検索
ガイド
印刷
セキュリティ
停止
関連サイト
ブックマーク
場所:
○○さまの現在録画予約されている項目は以下の通りです。
チャンネル
録画開始時間
録画終了時間
タイトル
CH3 200/09/01 22:30:00 200/09/01 23:00:00 かわいい天使ゲット
CH5 200/09/01 20:00:00 200/09/01 20:30:00 ○○ニュース
CH9 200/09/01 20:30:00 200/09/01 21:00:00 ○○サイエンス
CH5 200/09/01 21:00:00 200/09/01 22:00:00 世界○○サッカー
削除
戻る
ドキュメント:完了

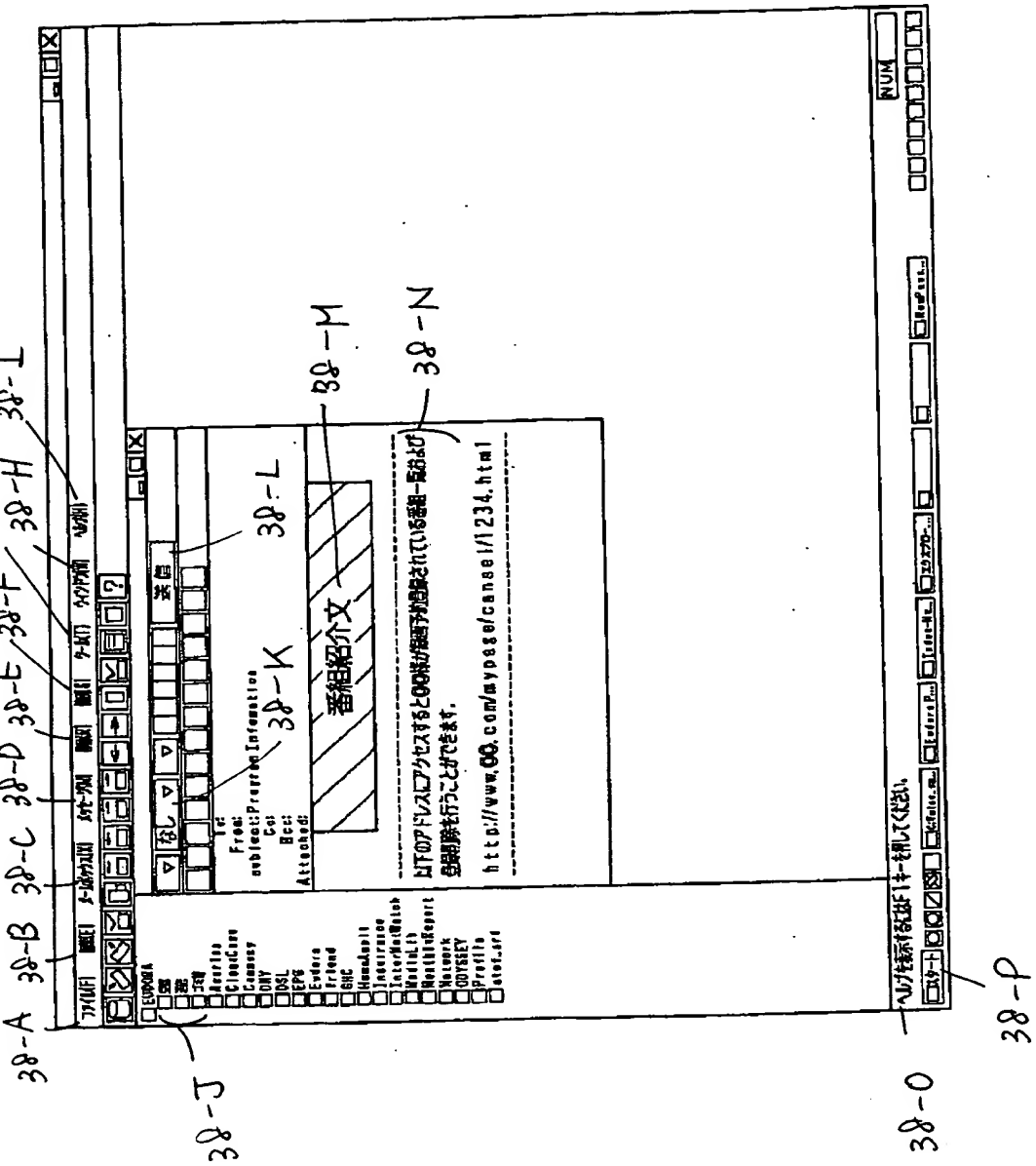
【図３６】


START
URLを含んだ電子メールを携帯端末装置へ送信する
S221
S222
NO
URLにアクセスするかどうか？
END
YES
番組情報を表示させる
S223
②

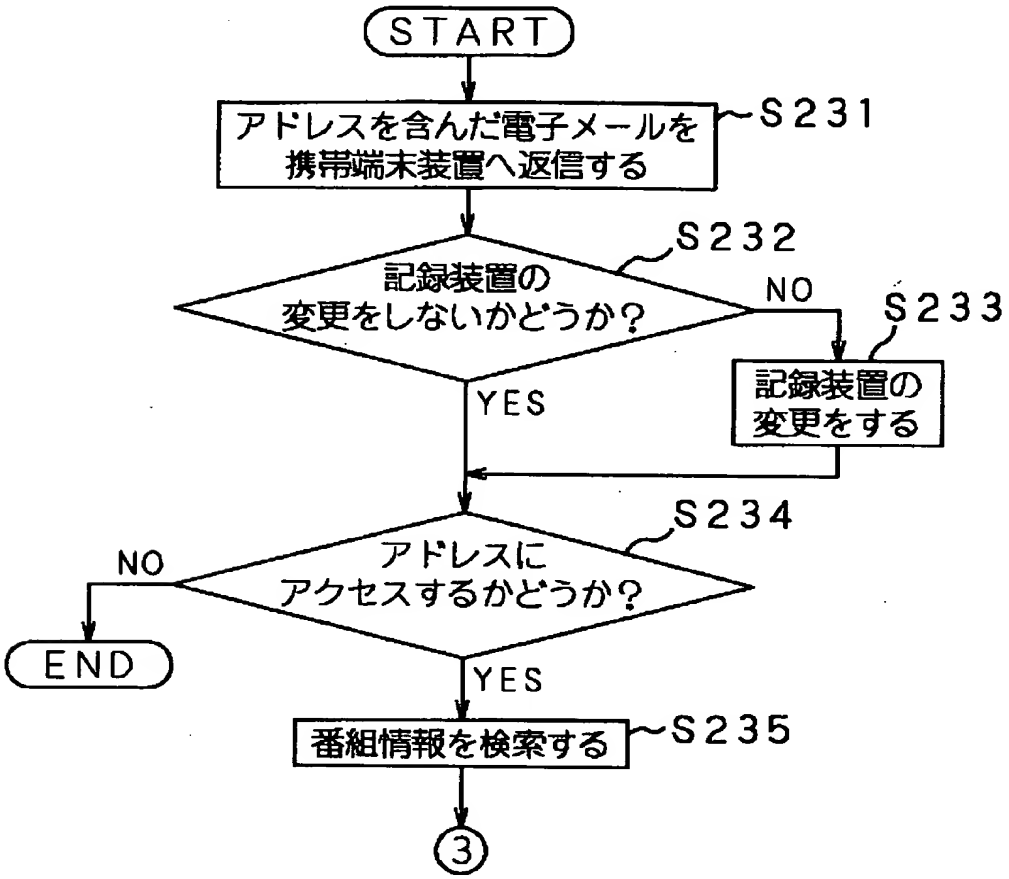
【図３７】


37-A
37-B
37-C
37-D
37-E
37-F
37-G
37-H
37-I
37-J
37-K
37-L
37-M
37-N
37-O
番組紹介文
http://www.○○.com/MyMail/RecordSet/1234_5_20000901210000200009012200000.html

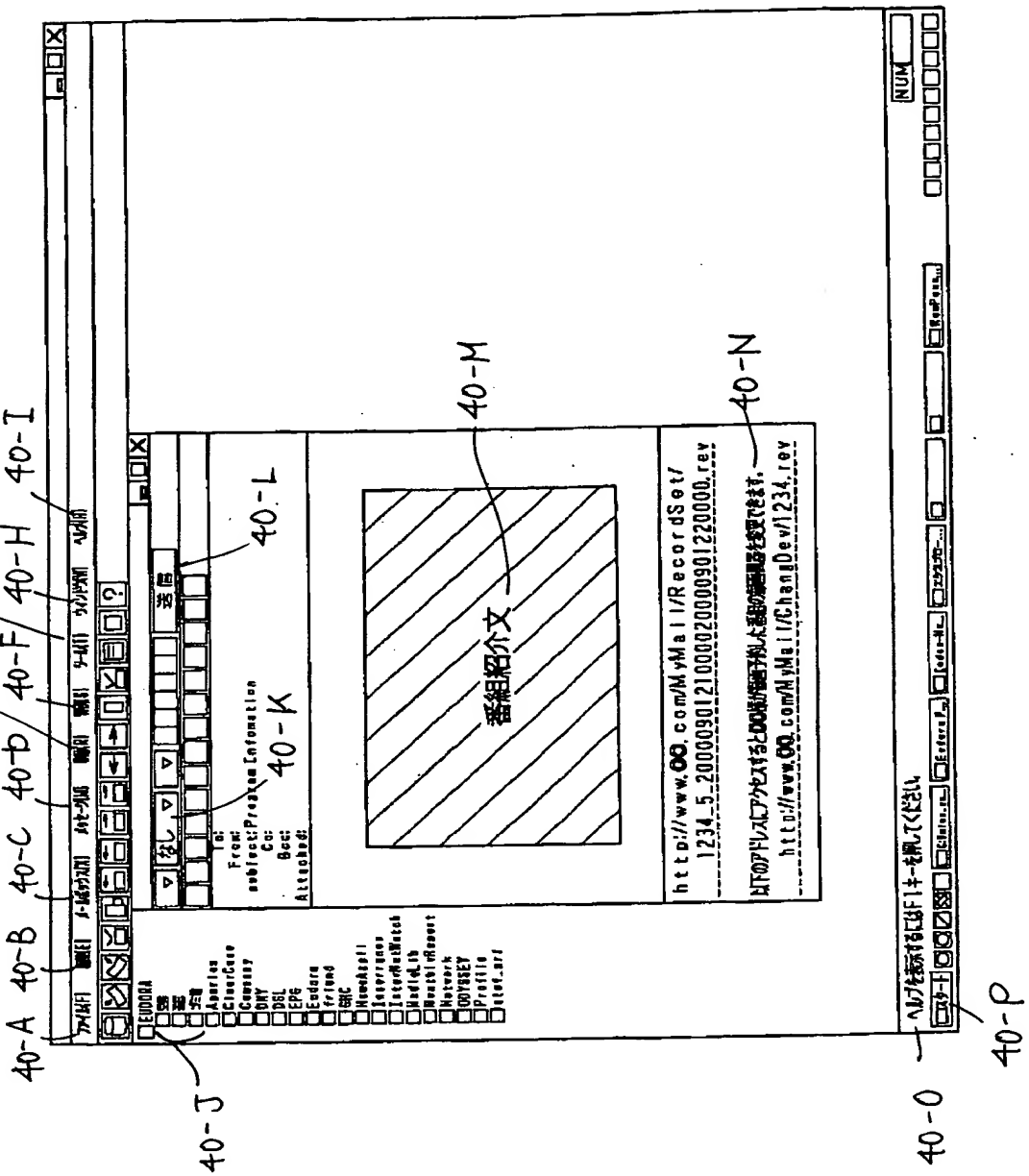
【図３８】


38-A
38-B
38-C
38-D
38-E
38-F
38-G
38-H
38-I
38-J
38-K
38-L
38-M
38-N
38-O
38-P
番組紹介文
http://www.00.com/myposse/cansel/1234.html
NUM

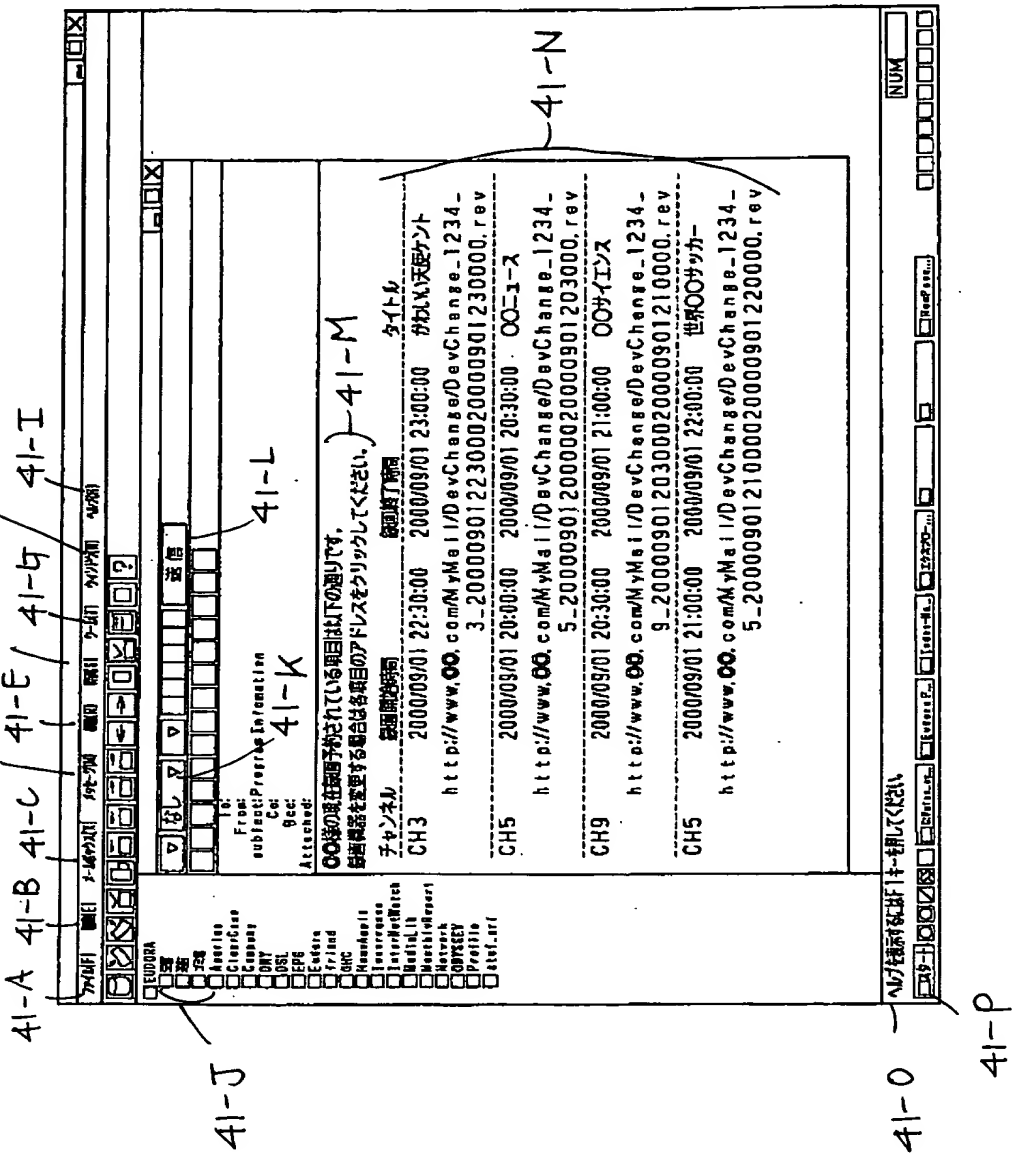
【図３９】


START
アドレスを含んだ電子メールを携帯端末装置へ返信する
S231
記録装置の変更をしないかどうか？
S232
NO
S233
記録装置の変更をする
YES
アドレスにアクセスするかどうか？
S234
NO
END
YES
番組情報を検索する
S235
③

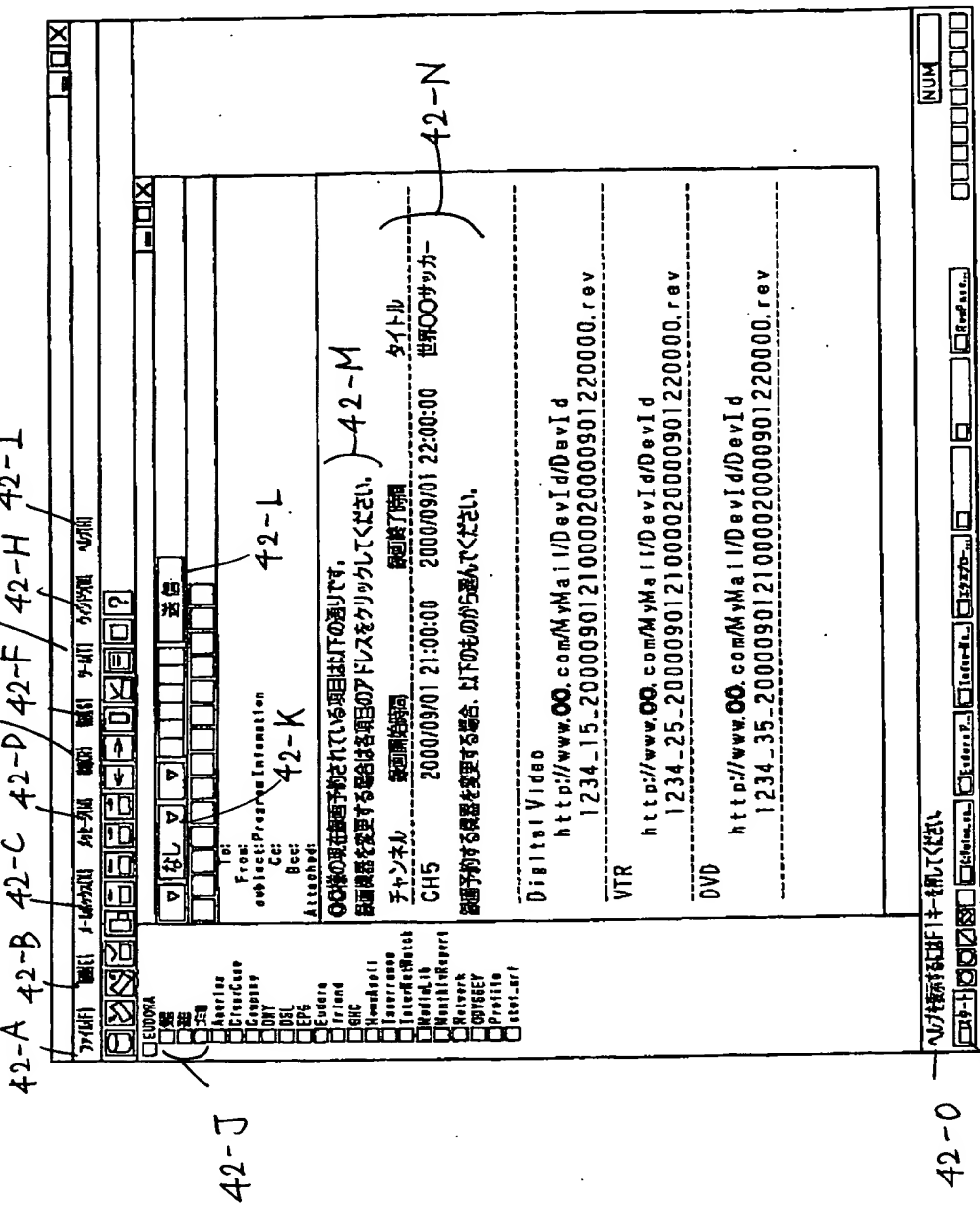
【図４０】


40-A
40-B
40-C
40-D
40-E
40-F
40-G
40-H
40-I
40-J
40-K
40-L
40-M
40-N
40-O
40-P
番組紹介文
送信
NUM

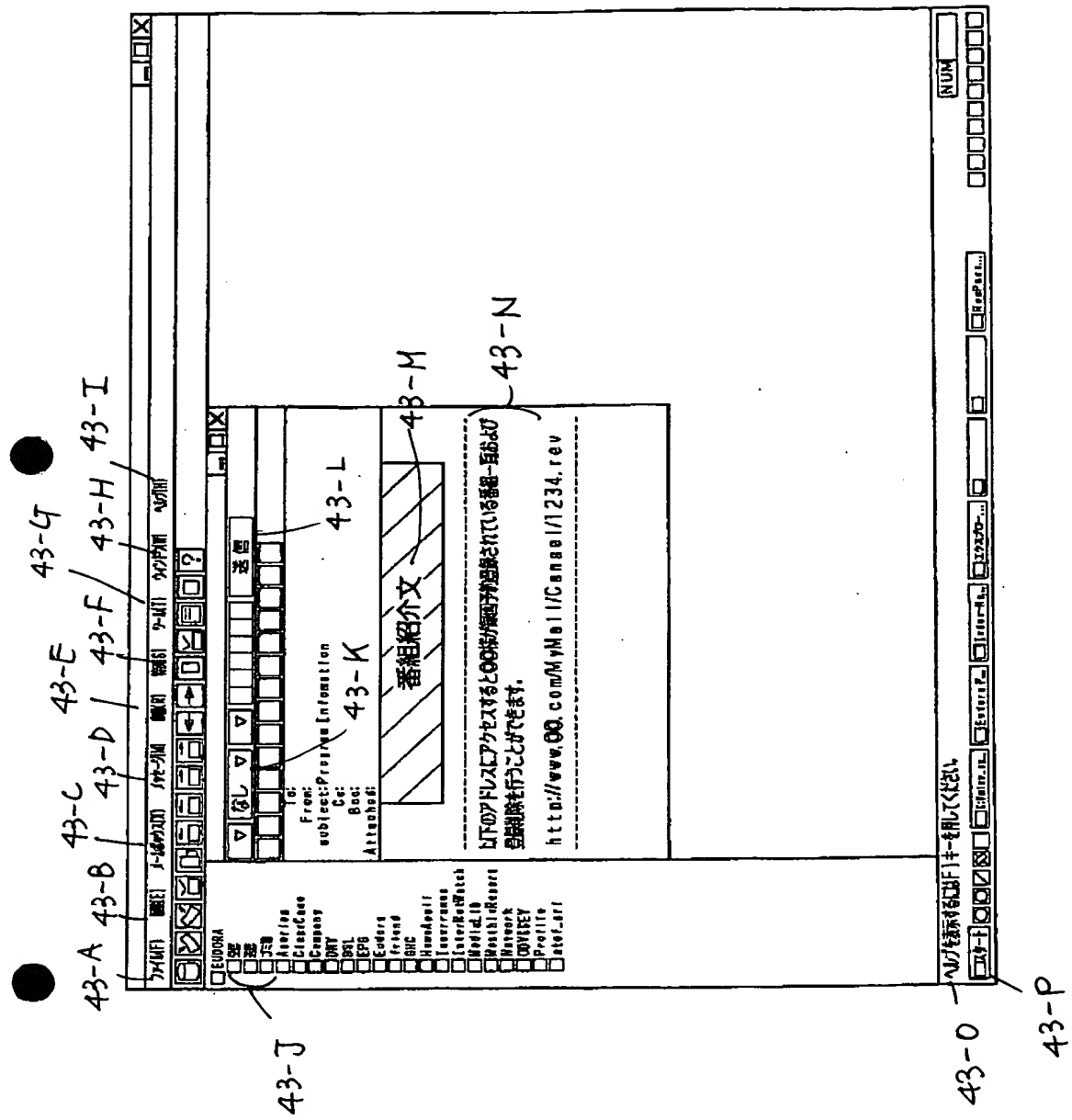
【図４１】


41-A
41-B
41-C
41-D
41-E
41-F
41-G
41-H
41-I
41-J
41-K
41-L
41-M
41-N
41-O
41-P
送信
CH3 2000/09/01 22:30:00 2000/09/01 23:00:00 かわいい天座ゲント
CH5 2000/09/01 20:00:00 2000/09/01 20:30:00 ○○ニュース
CH9 2000/09/01 20:30:00 2000/09/01 21:00:00 ○○サイエンス
CH5 2000/09/01 21:00:00 2000/09/01 22:00:00 世界○○サッカー

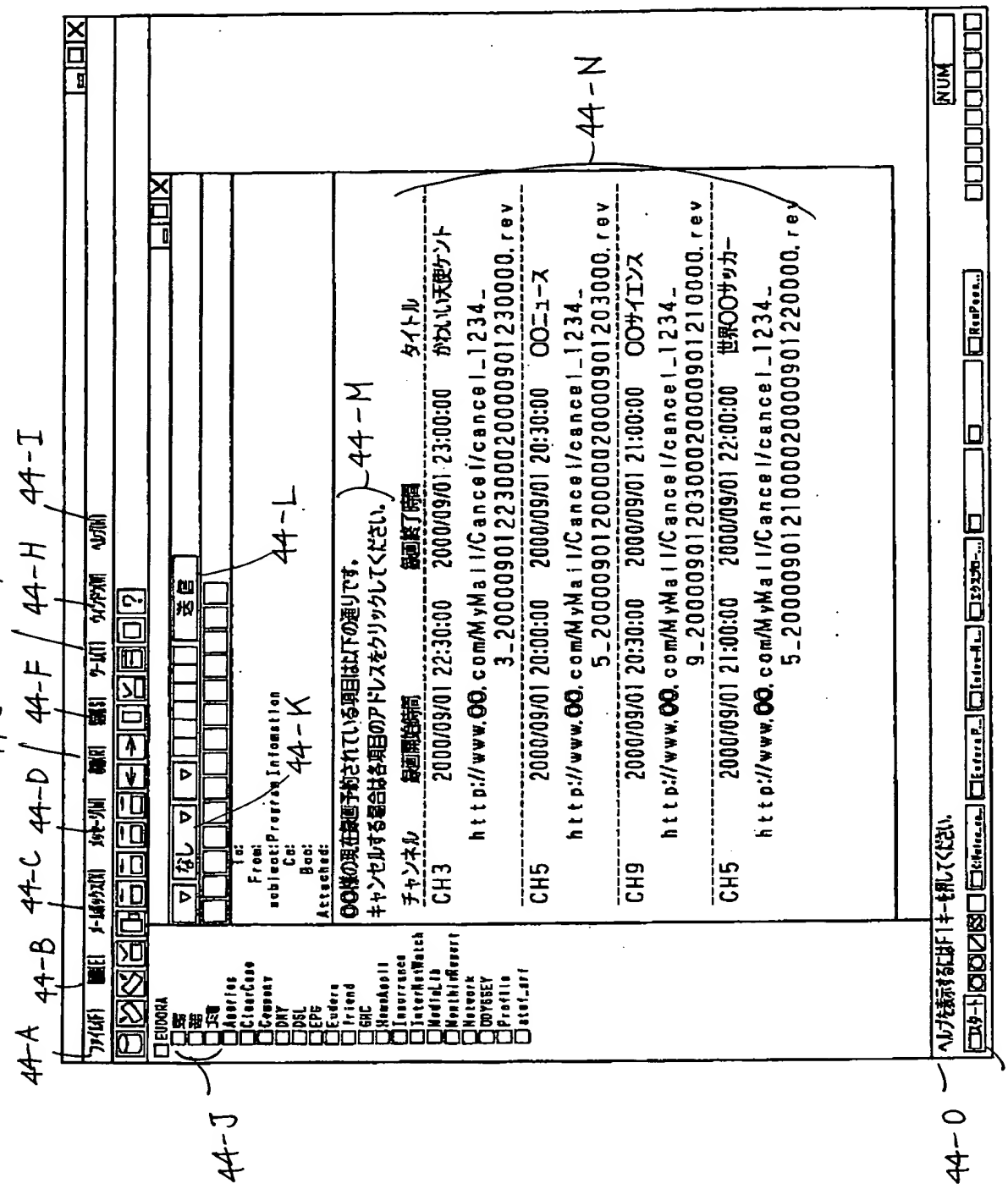
【図４２】


42-A
42-B
42-C
42-D
42-E
42-F
42-G
42-H
42-I
42-J
42-K
42-L
42-M
42-N
42-O
42-P
To:
From:
Subject:Program Information
Cc:
Bcc:
Attached:
送信
○○様の現在自動予約されている項目は以下の通りです。
録画機器を変更する場合は各項目のアドレスをクリックしてください。
チャンネル　録画開始時刻　録画終了時刻　タイトル
CH5　2000/09/01 21:00:00　2000/09/01 22:00:00　世界○○サッカー
録画予約する機器を変更する場合、以下もの中から選んでください。
DigitalVideo
http://www.○○.com/MyMail/DevId/DevId
1234_15_20000901210000200009012200000.rev
VTR
http://www.○○.com/MyMail/DevId/DevId
1234_25_20000901210000200009012200000.rev
DVD
http://www.○○.com/MyMail/DevId/DevId
1234_35_20000901210000200009012200000.rev
NUM

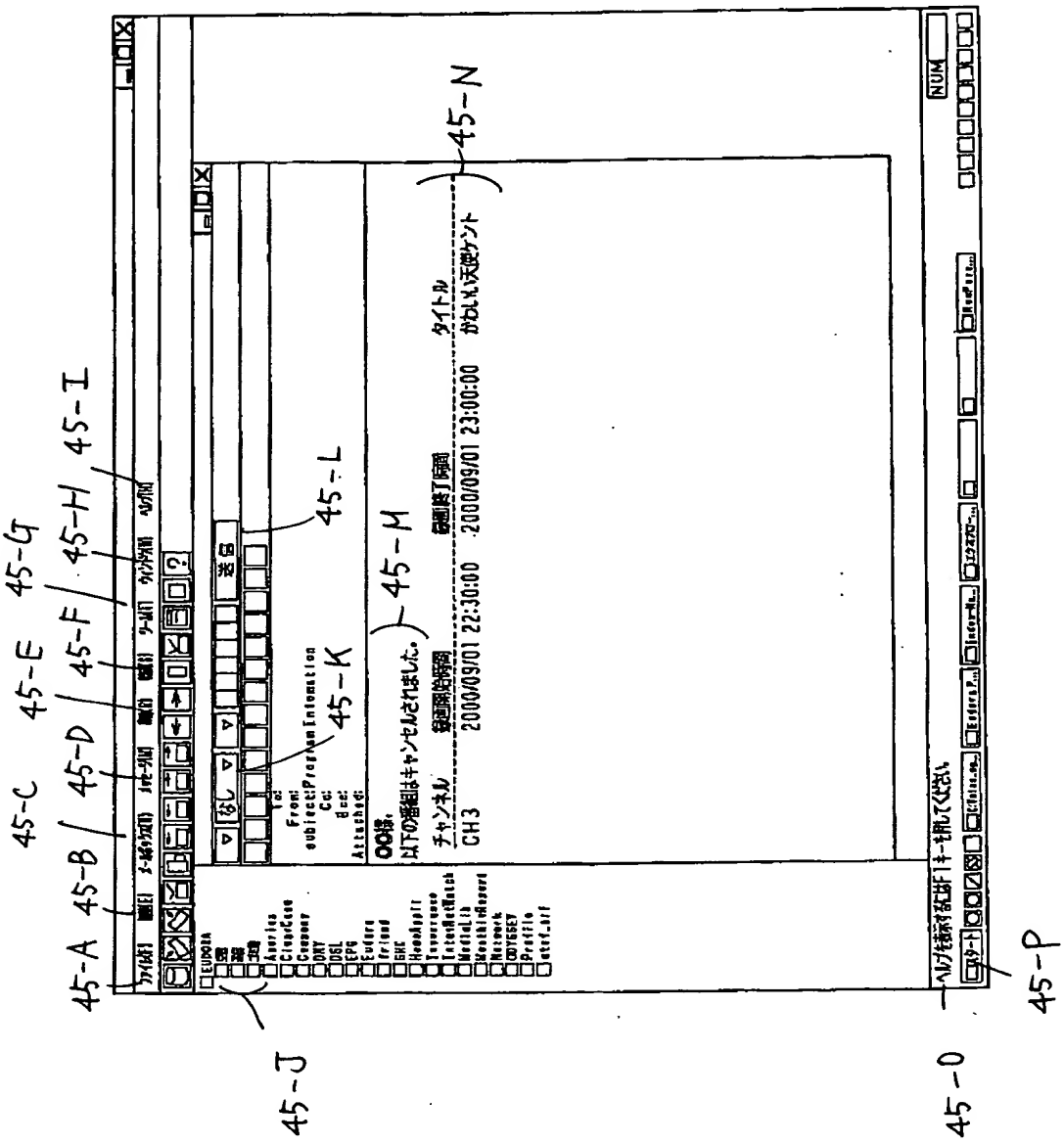
【図４３】


43-A
43-B
43-C
43-D
43-E
43-F
43-G
43-H
43-I
43-J
43-K
43-L
43-M
43-N
43-O
43-P
番組紹介文
http://www.OO.com/MailICanael1/1234.rev

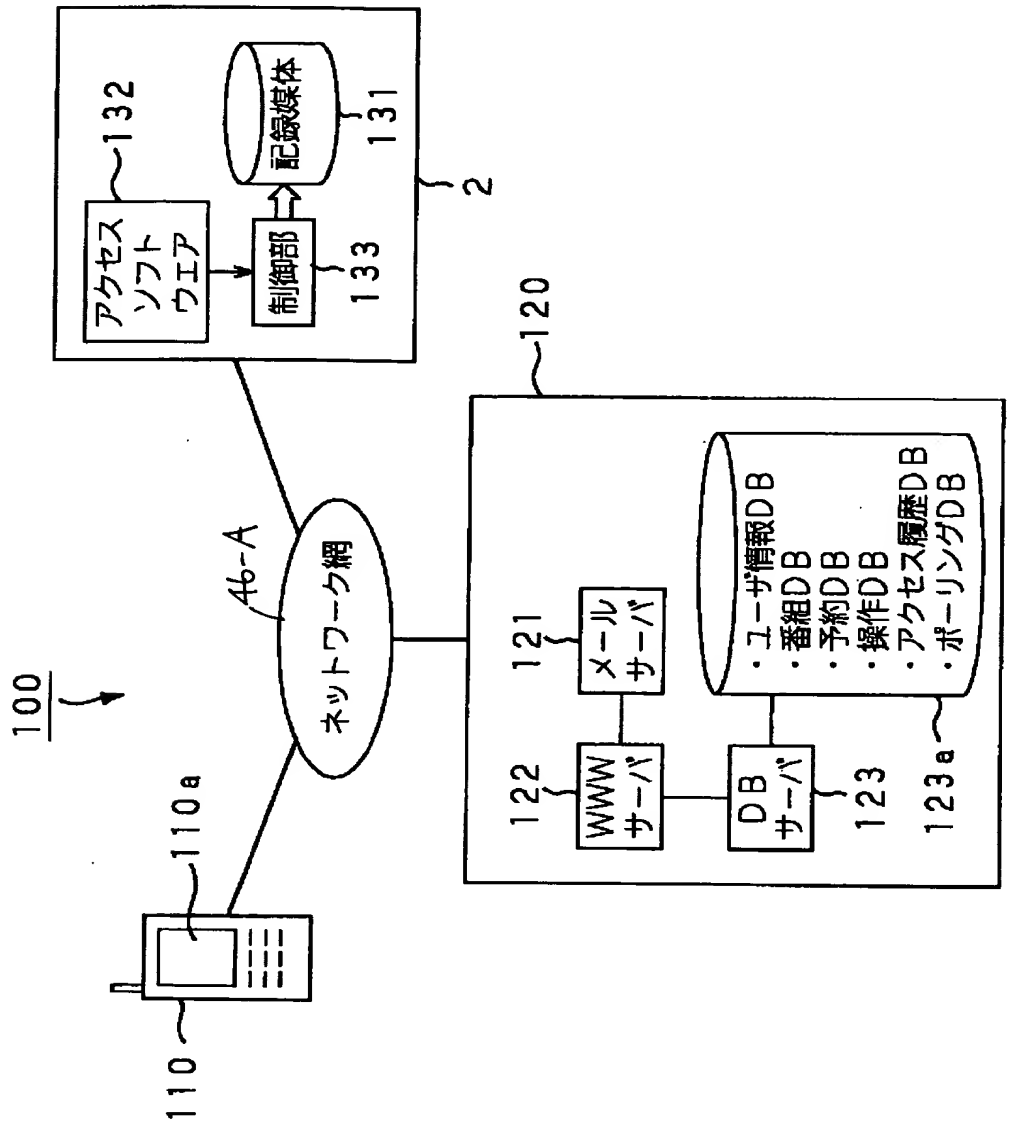
【図４４】


44-A
44-B
44-C
44-D
44-E
44-F
44-G
44-H
44-I
44-J
44-K
44-L
44-M
44-N
44-O
44-P
EUDORA
Abortion
ClearCase
Company
DNT
DSL
EPG
Eudora
Friend
GHC
HawkApoll
Insurrance
InterNetWatch
MediaLib
MonthlyReport
Network
ODYSSEY
Profile
Otsuf_arf
なし
送信
To:
From:
subject:Program Infomation
Cc:
Bcc:
Attached:
○○様の現在録画予約されている項目は以下の通りです。
キャンセルする場合は各項目のアドレスをクリックしてください。
チャンネル　録画開始時間　録画終了時間　タイトル
CH3　2000/09/01 22:30:00　2000/09/01 23:00:00　かわいい天使ケント
http://www.○○.com/MyMail/Cancel/cancel_1234_3_20000901223000200009012300000.rev
CH5　2000/09/01 20:00:00　2000/09/01 20:30:00　○○ニュース
http://www.○○.com/MyMail/Cancel/cancel_1234_5_20000901200000200009012030000.rev
CH9　2000/09/01 20:30:00　2000/09/01 21:00:00　○○サイエンス
http://www.○○.com/MyMail/Cancel/cancel_1234_9_20000901203000200009012100000.rev
CH5　2000/09/01 21:00:00　2000/09/01 22:00:00　世界○○サッカー
http://www.○○.com/MyMail/Cancel/cancel_1234_5_20000901210000200009012200000.rev
ヘルプを表示するにはF1キーを押してください。
NUM

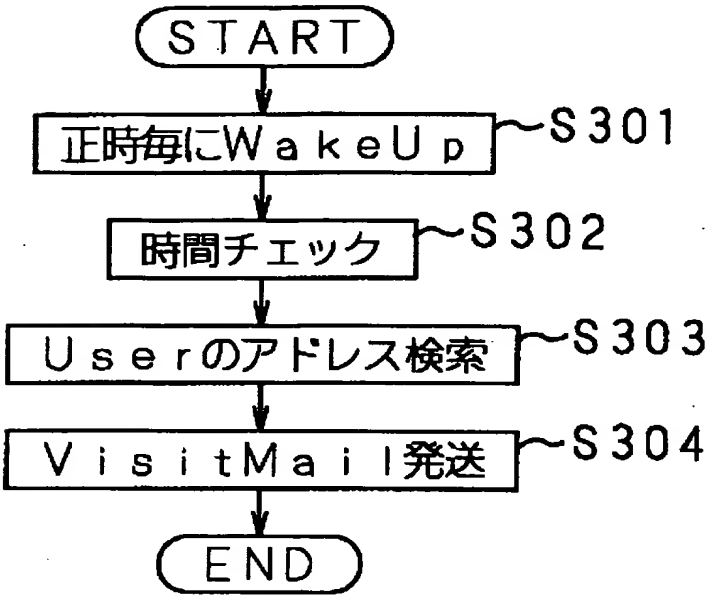
【図４５】


45-A
45-B
45-C
45-D
45-E
45-F
45-G
45-H
45-I
45-J
45-K
45-L
45-M
45-N
45-O
45-P
To:
From:
Subject:
Cc:
Bcc:
Attached:
OO様,
以下の番組はキャンセルされました。
チャンネル
録画開始時間
録画終了時間
タイトル
CH3
2000/09/01 22:30:00
2000/09/01 23:00:00
かわいい天使ケント
NUM

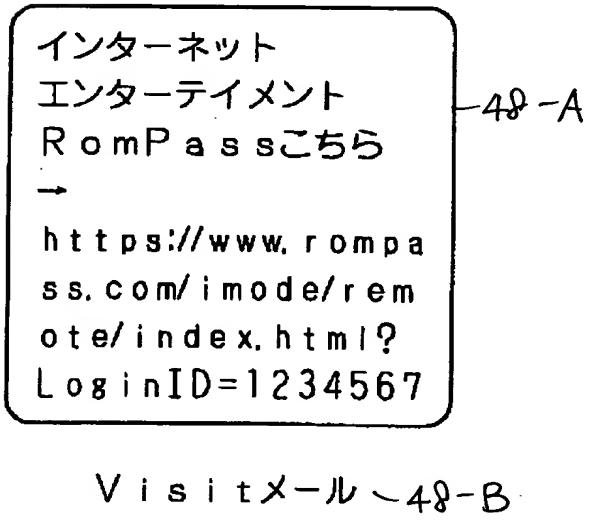
【図４６】


100
110
110a
ネットワーク網
46-A
2
記録媒体
131
制御部
133
アクセスソフトウエア
132
120
メールサーバ
121
WWWサーバ
122
DBサーバ
123
・ユーザ情報DB
・番組DB
・予約DB
・操作DB
・アクセス履歴DB
・ポーリングDB
123a

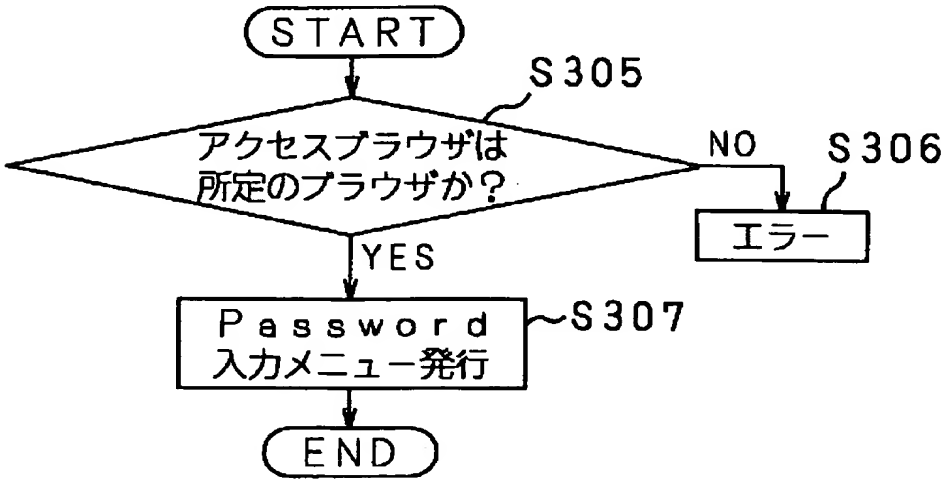
【図４７】


START
正時毎にＷａｋｅＵｐ
S301
時間チェック
S302
Ｕｓｅｒのアドレス検索
S303
ＶｉｓｉｔＭａｉｌ発送
S304
END

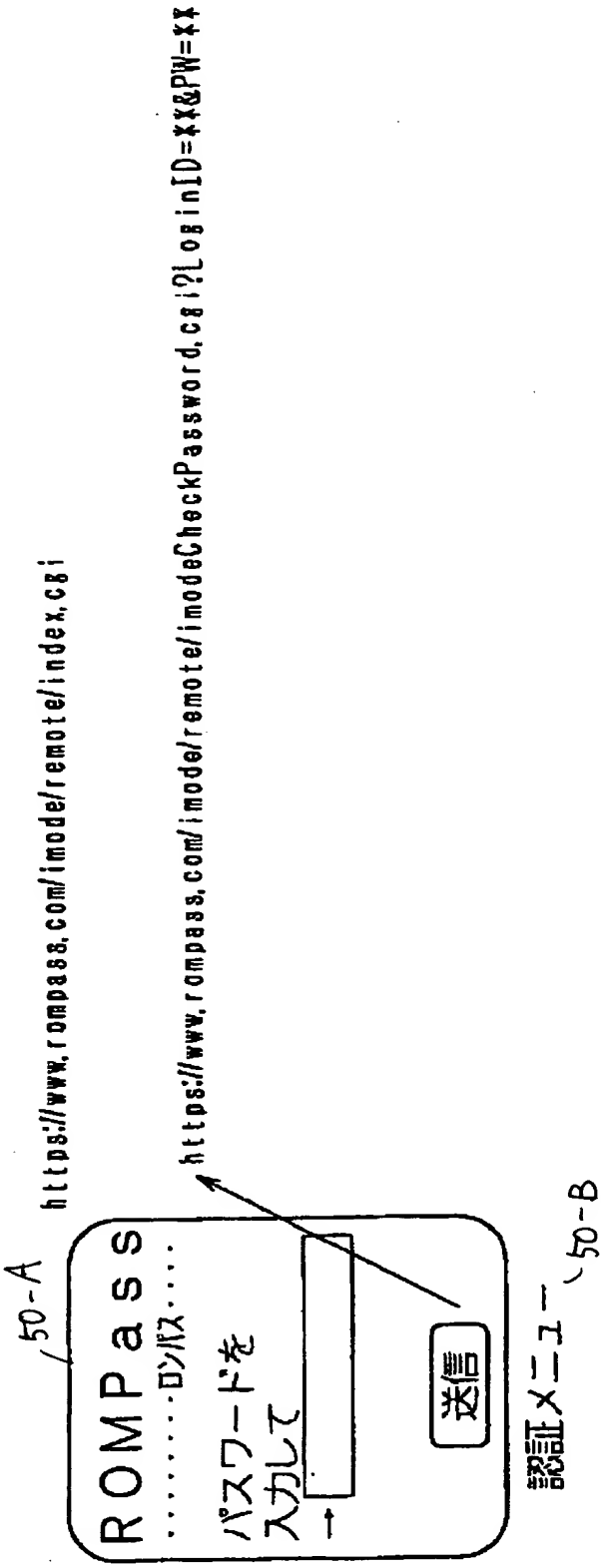
【図４８】


インターネット
エンターテイメント
ＲｏｍＰａｓｓこちら
→
ｈｔｔｐｓ://ｗｗｗ.ｒｏｍｐａｓｓ.ｃｏｍ/ｉｍｏｄｅ/ｒｅｍｏｔｅ/ｉｎｄｅｘ.ｈｔｍｌ?ＬｏｇｉｎＩＤ=1234567
48-A
Ｖｉｓｉｔメール
48-B

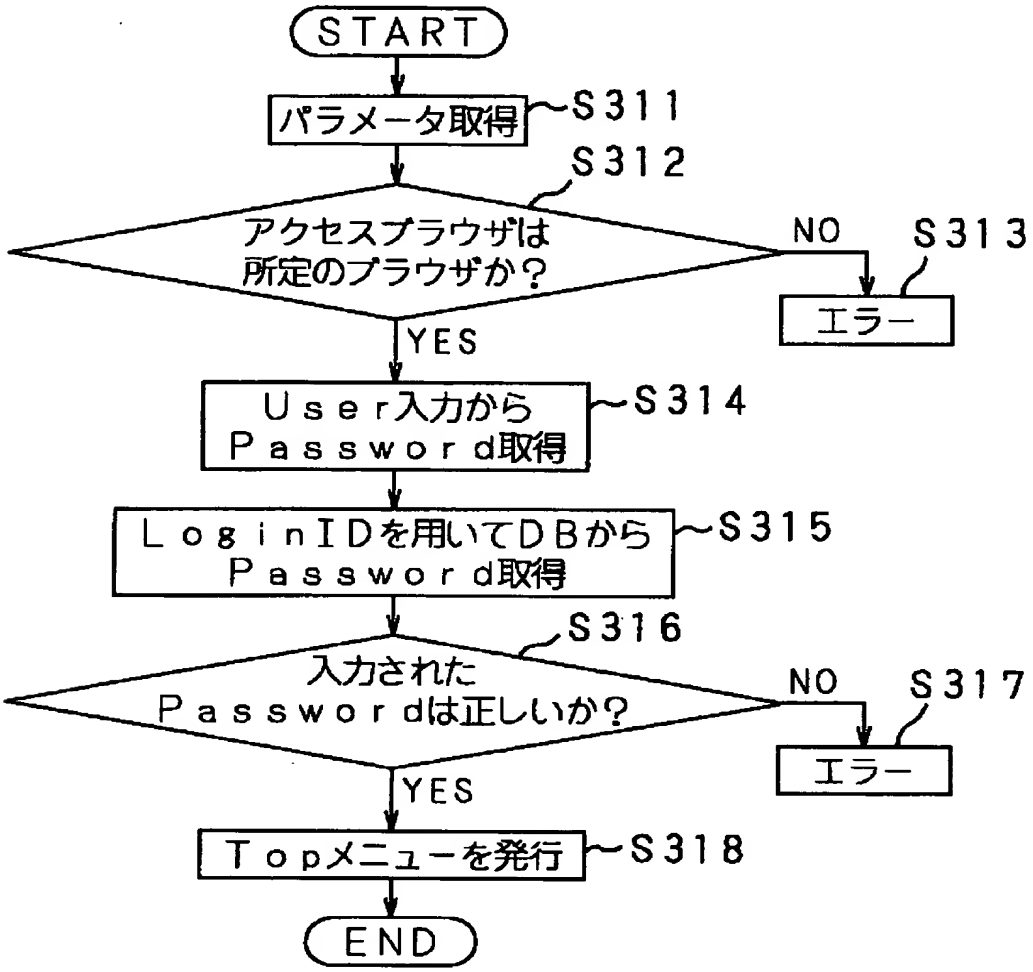
【図４９】


START
S305
アクセスブラウザは
所定のブラウザか？
NO
S306
エラー
YES
Ｐａｓｓｗｏｒｄ
入力メニュー発行
S307
END

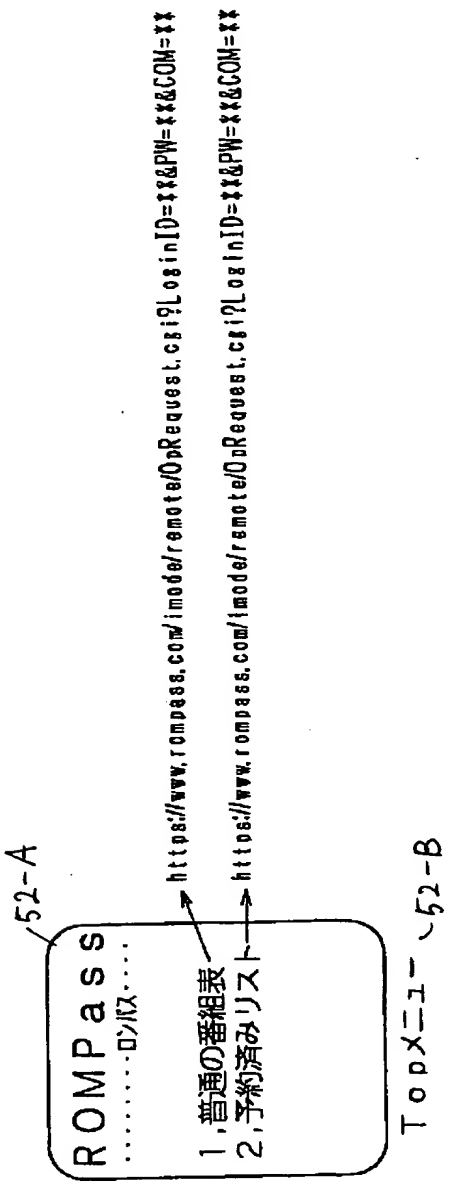
【図５０】


https://www.rompass.com/imode/remote/index.cgi
https://www.rompass.com/imode/remote/imodeCheckPassword.cgi?LoginID=XX&PW=XX
50-A
ROMPass
ロンパス
パスワードを
入力して
送信
認証メニュー
50-B

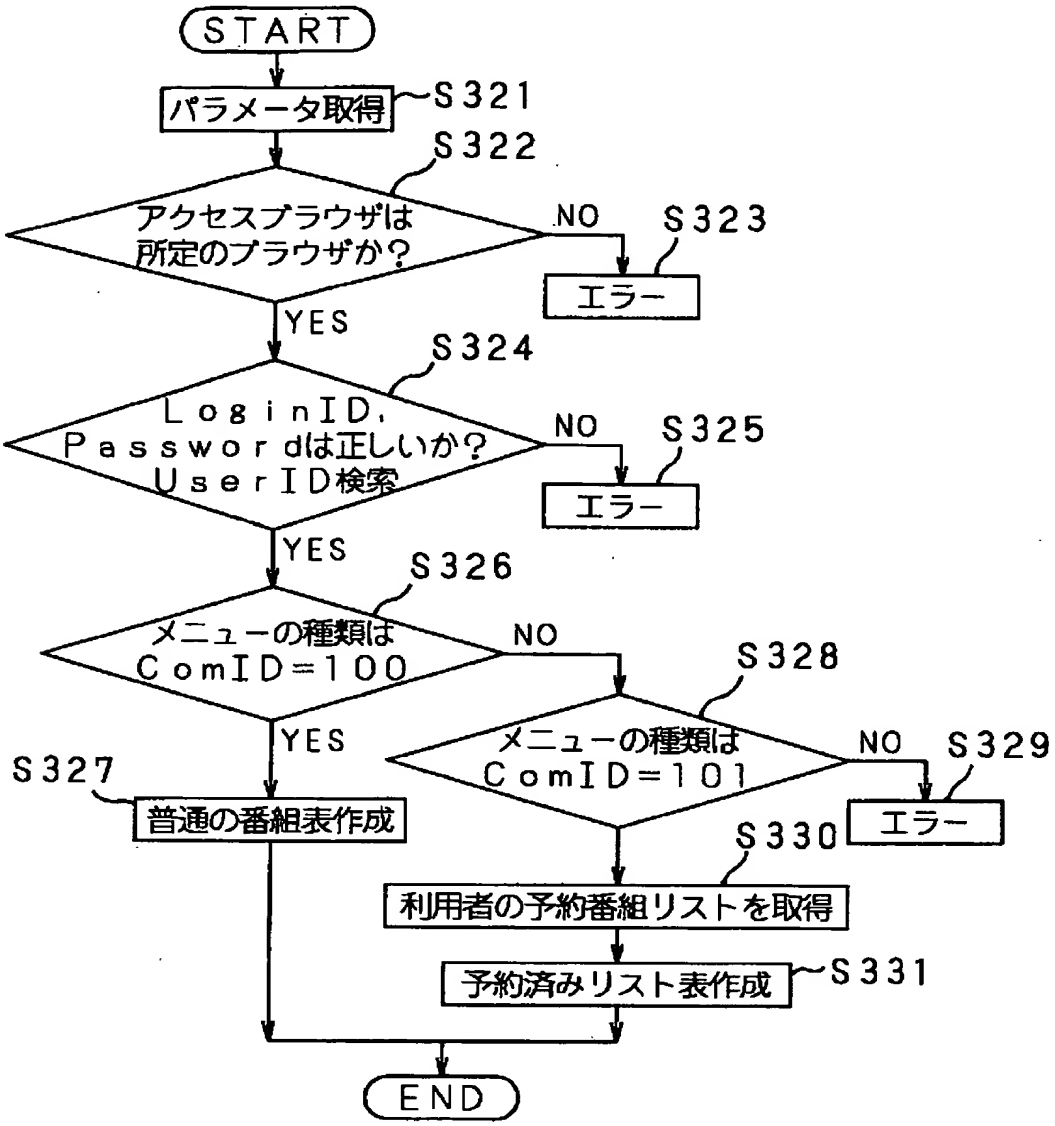
【図５１】


START
パラメータ取得
S311
S312
アクセスブラウザは
所定のブラウザか？
NO
S313
エラー
YES
User入力から
Password取得
S314
LoginIDを用いてDBから
Password取得
S315
S316
入力された
Passwordは正しいか？
NO
S317
エラー
YES
Topメニューを発行
S318
END

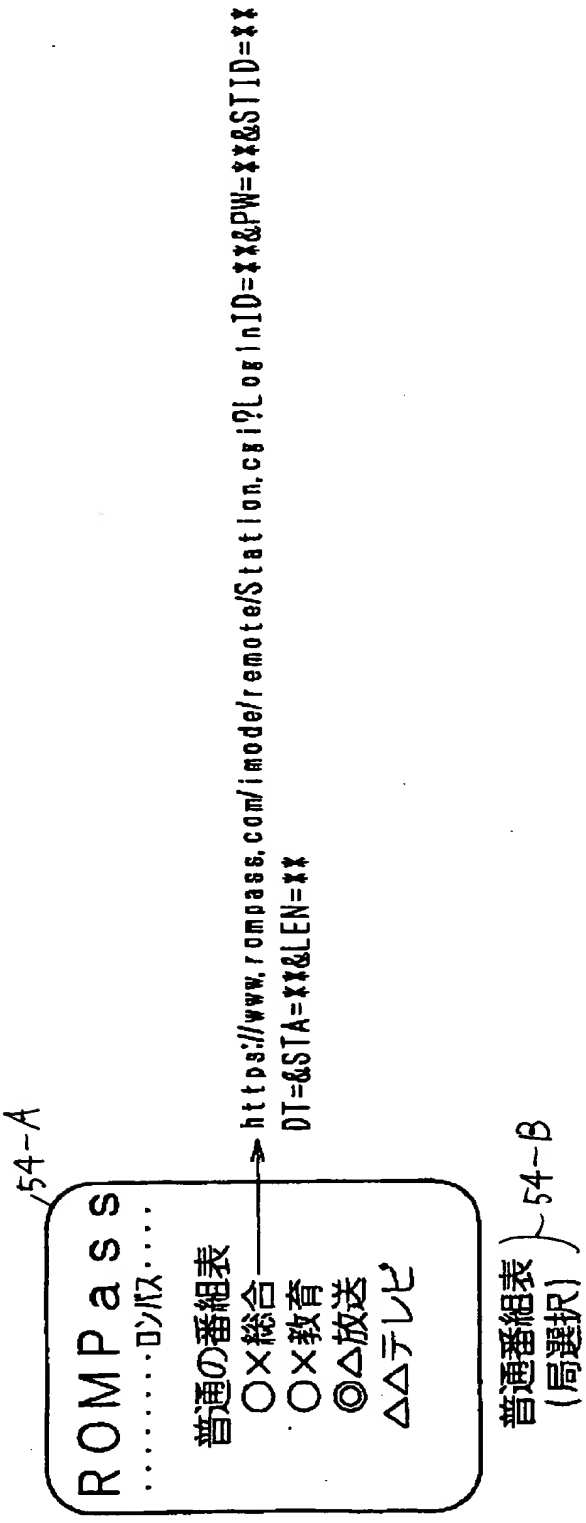
【図５２】


52-A
ROMPass
……ログイン……
1，普通の番組表
2，予約済みリスト
https://www.rompass.com/imode/remote/OpRequest.cgi?LoginID=***&PW=***&COM=**
https://www.rompass.com/imode/remote/OpRequest.cgi?LoginID=***&PW=***&COM=**
Topメニュー
52-B

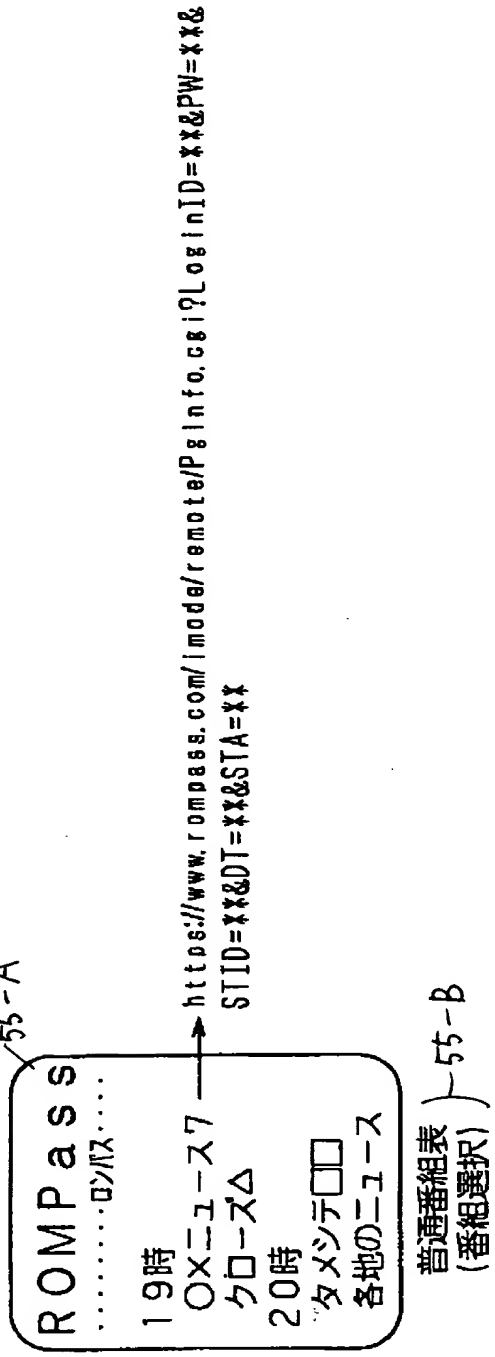
【図５３】


START
パラメータ取得
S321
S322
アクセスブラウザは
所定のブラウザか？
NO
S323
エラー
YES
S324
ＬｏｇｉｎＩＤ，
Ｐａｓｓｗｏｒｄは正しいか？
ＵｓｅｒＩＤ検索
NO
S325
エラー
YES
S326
メニューの種類は
ＣｏｍＩＤ＝１００
NO
S328
メニューの種類は
ＣｏｍＩＤ＝１０１
NO
S329
エラー
YES
S327
普通の番組表作成
S330
利用者の予約番組リストを取得
予約済みリスト表作成
S331
END

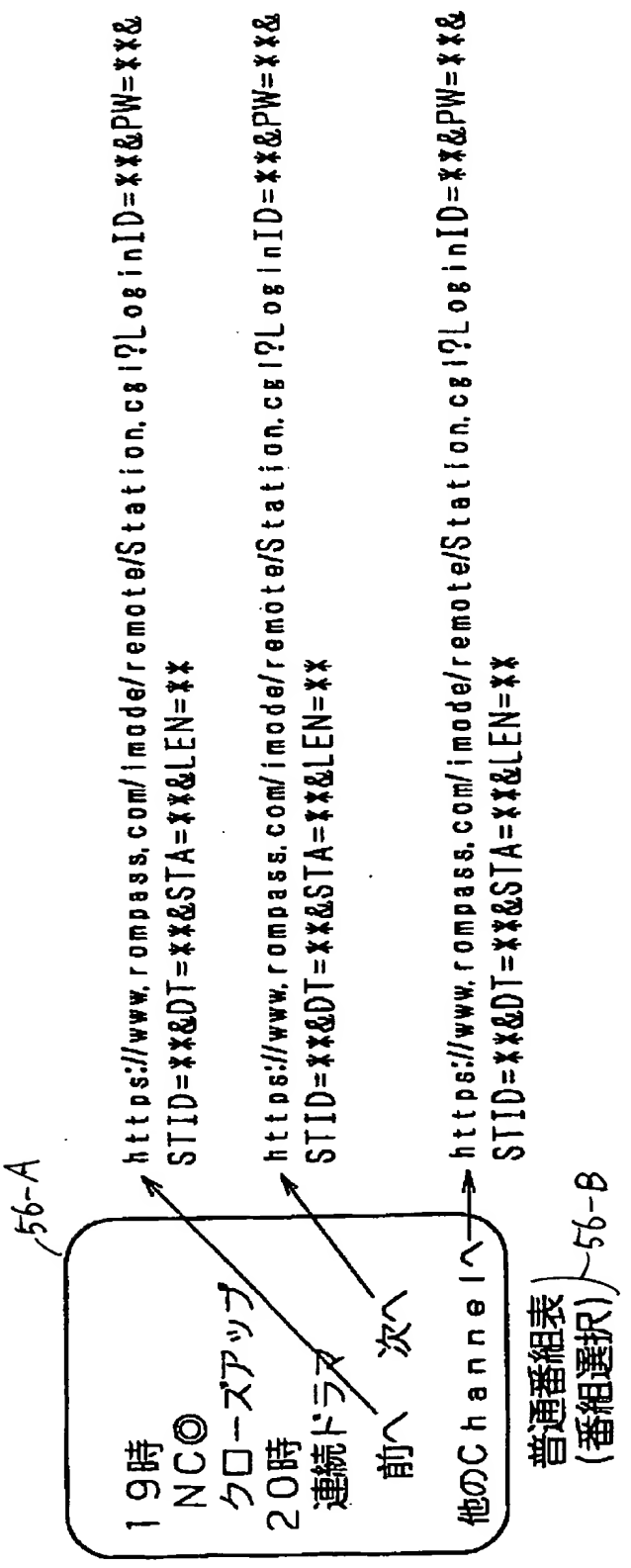
【図５４】


54-A
ROMPass
……ﾛｸﾊﾞｽ……
普通の番組表
○×総合
○×教育
◎△放送
△△テレビ
https://www.rompass.com/imode/remote/Station.cgi?LoginID=**&PW=**&STID=**
DT=&STA=**&LEN=**
普通番組表
(局選択)
54-B

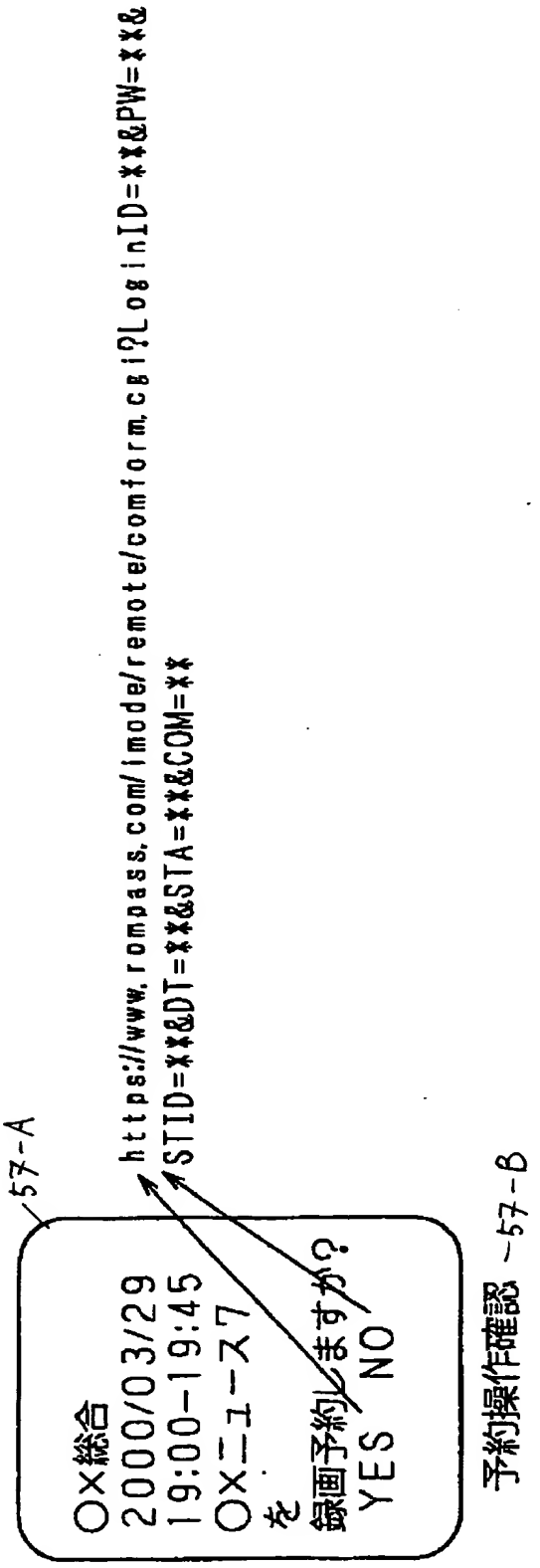
【図５５】


55-A
ROMPass
……ロンパス……
19時
○×ニュース7
クローズΔ
20時
タメシテ□□
各地のニュース
https://www.rompass.com/imode/remote/PginfO.cgi?LoginID=XX&PW=XX&
STID=XX&DT=XX&STA=XX
普通番組表
(番組選択)
55-B

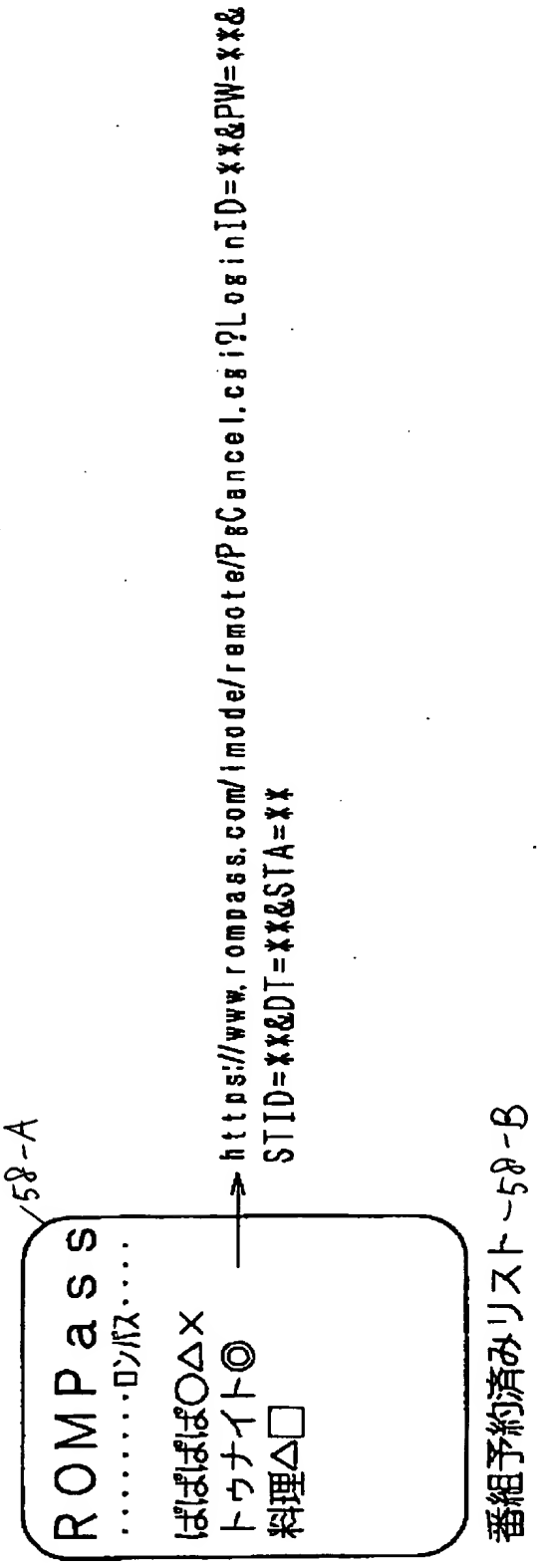
【図５６】


56-A
19時
NC◎
クローズアップ
20時
連続ドラマ
前へ　次へ
他のChannelへ
https://www.rompass.com/imode/remote/Station.cgi?LoginID=XX&PW=XX&
STID=XX&DT=XX&STA=XX&LEN=XX
https://www.rompass.com/imode/remote/Station.cgi?LoginID=XX&PW=XX&
STID=XX&DT=XX&STA=XX&LEN=XX
https://www.rompass.com/imode/remote/Station.cgi?LoginID=XX&PW=XX&
STID=XX&DT=XX&STA=XX&LEN=XX
普通番組表
(番組選択)
56-B

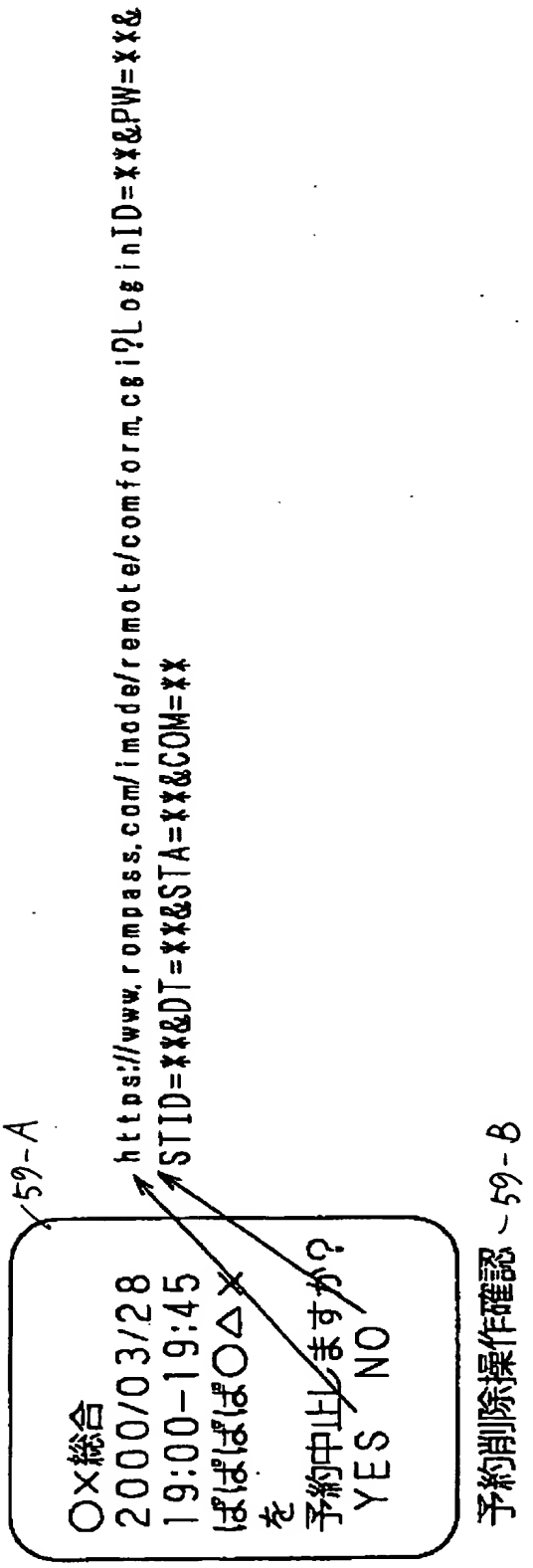
【図５７】


57-A
https://www.rompass.com/imode/remote/comform.cgi?LoginID=**&PW=**&
STID=**&DT=**&STA=**&COM=**
○×総合
2000/03/29
19:00-19:45
○×ニュース7
を
録画予約しますか?
YES NO
予約操作確認
57-B

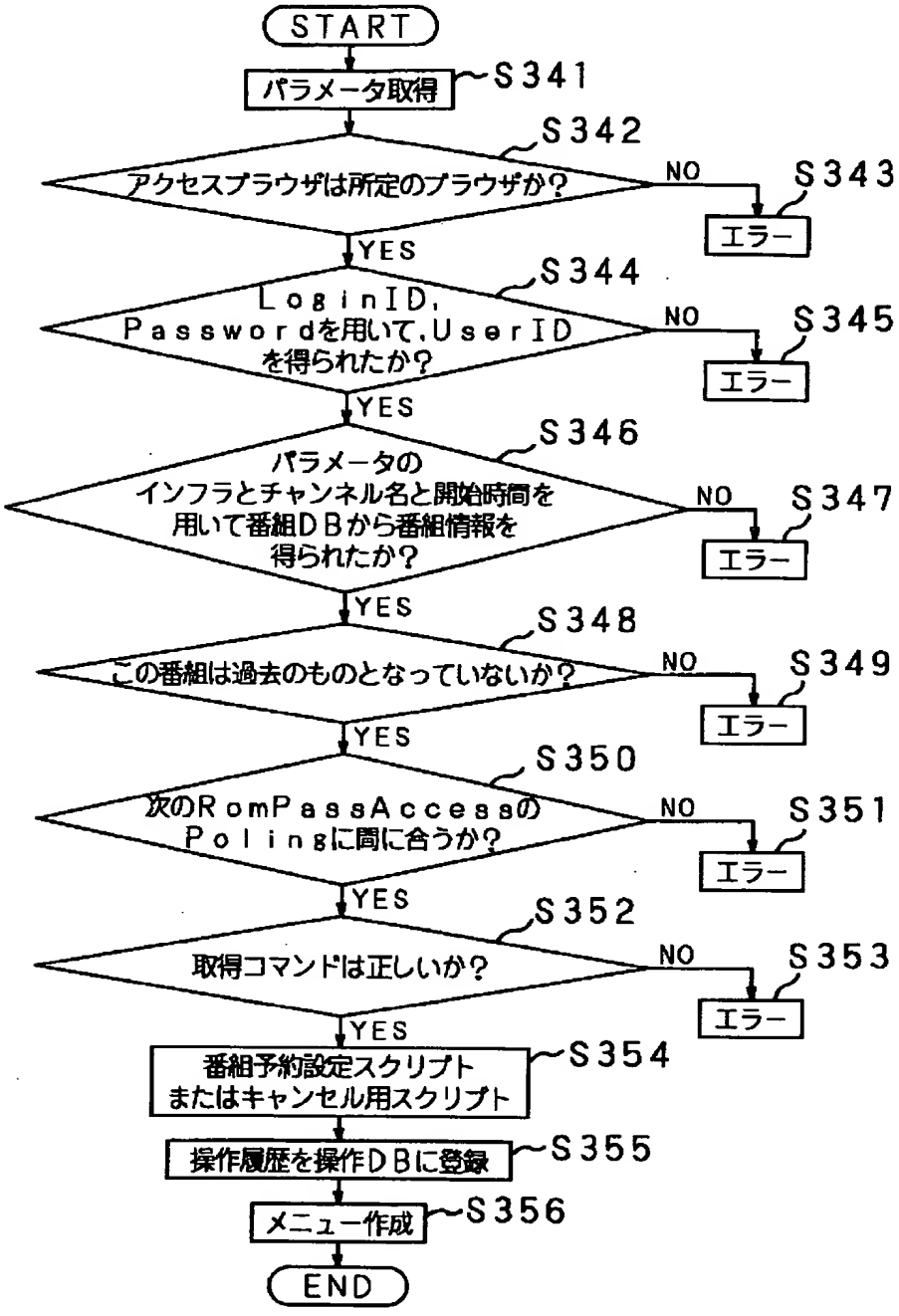
【図５８】


58-A
ROMPass
……ﾛﾝﾊﾞｽ……
ははははの△×
トゥナイト◎
料理△□
https://www.rompass.com/imode/remote/PgCancel.cgi?LoginID=**&PW=**&
STID=**&DT=**&STA=**
番組予約済みリスト
58-B

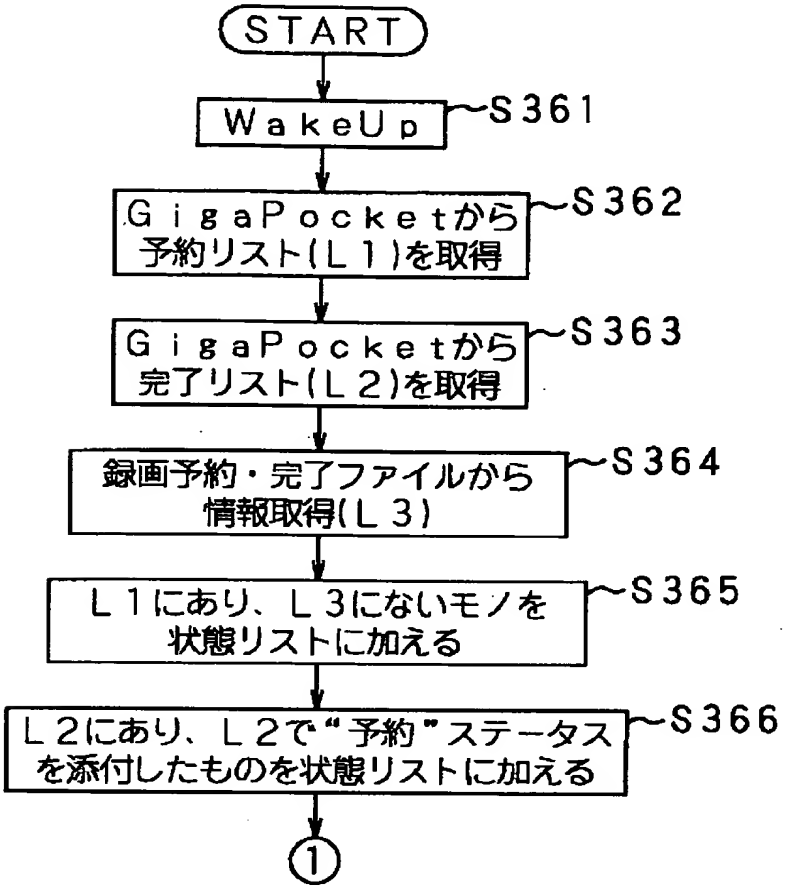
【図５９】


59-A
https://www.rompass.com/imode/remote/comform.cgi?LoginID=XX&PW=XX&
STID=XX&DT=XX&STA=XX&COM=XX
○×総合
2000/03/28
19:00-19:45
ばばばば○△×
を
予約中止しますか?
YES NO
予約削除操作確認
59-B

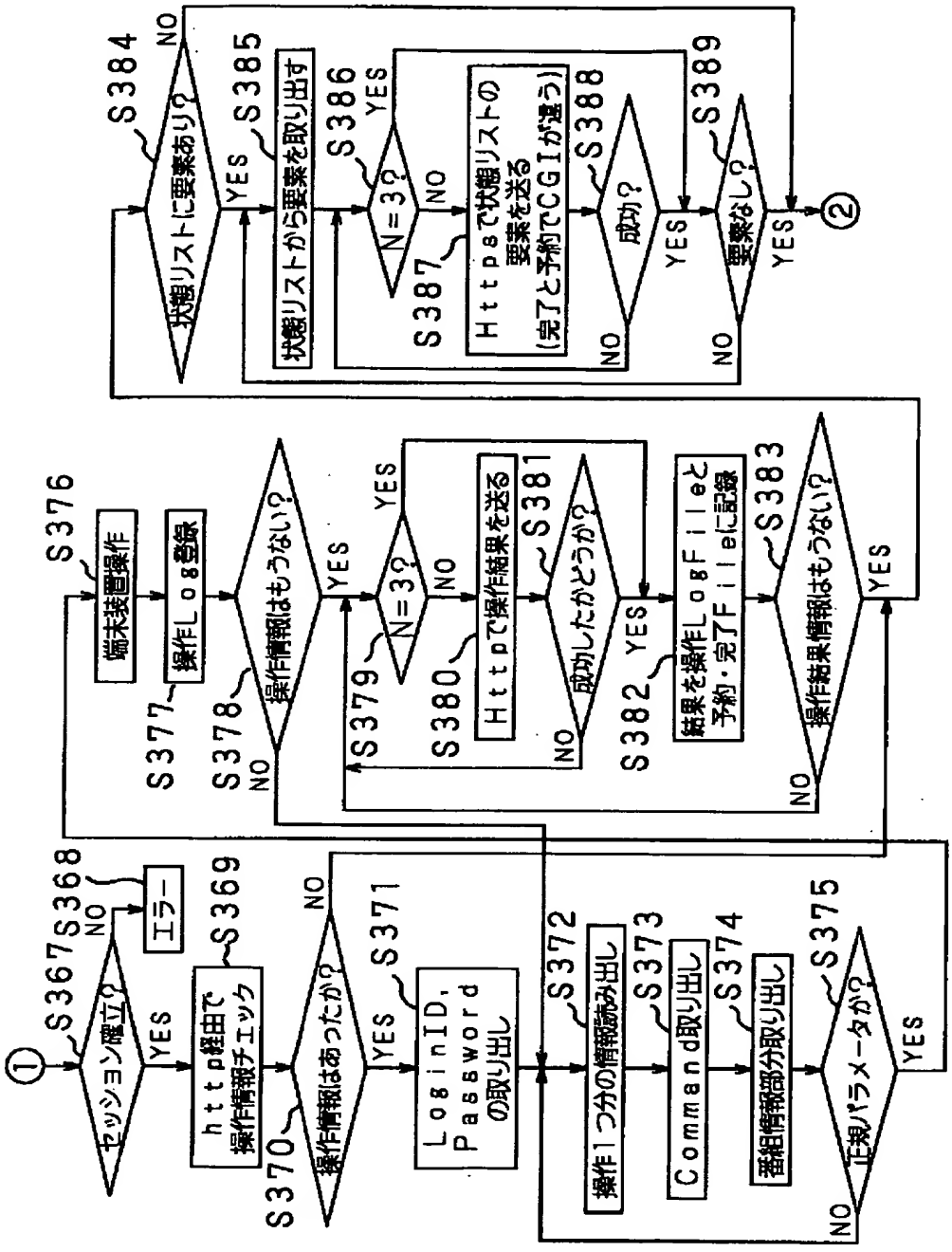
【図６０】


START
パラメータ取得
S341
S342
アクセスブラウザは所定のブラウザか？
NO
S343
エラー
YES
S344
LoginID,
Passwordを用いて,UserID
を得られたか？
NO
S345
エラー
YES
S346
パラメータの
インフラとチャンネル名と開始時間を
用いて番組ＤＢから番組情報を
得られたか？
NO
S347
エラー
YES
S348
この番組は過去のものとなっていないか？
NO
S349
エラー
YES
S350
次のRomPassAccessの
Polingに同に合うか？
NO
S351
エラー
YES
S352
取得コマンドは正しいか？
NO
S353
エラー
YES
番組予約設定スクリプト
またはキャンセル用スクリプト
S354
操作履歴を操作ＤＢに登録
S355
メニュー作成
S356
END

【図６１】


START
WakeUp
S361
GigaPocketから予約リスト(L1)を取得
S362
GigaPocketから完了リスト(L2)を取得
S363
録画予約・完了ファイルから情報取得(L3)
S364
L1にあり、L3にないモノを状態リストに加える
S365
L2にあり、L2で"予約"ステータスを添付したものを状態リストに加える
S366
①

【図６２】


①
S367
セッション確立?
NO
YES
S368
エラー
S369
http経由で操作情報チェック
S370
操作情報はあったか?
NO
YES
S371
LoginID, Passwordの取り出し
S372
操作1つ分の情報読み出し
S373
Command取り出し
S374
番組情報部分取り出し
S375
正規パラメータか?
NO
YES
S376
端末装置操作
S377
操作Log登録
S378
操作情報はもうない?
NO
YES
S379
N=3?
NO
YES
S380
Httpで操作結果を送る
S381
成功したかどうか?
NO
YES
S382
結果を操作LogFileと予約・完了Fileに記録
S383
操作結果情報はもうない?
NO
YES
S384
状態リストに要素あり?
NO
YES
S385
状態リストから要素を取り出す
S386
N=3?
NO
YES
S387
Httpで状態リストの要素を送る(完了と予約でCGIが違う)
S388
成功?
NO
YES
S389
要素なし?
NO
YES
②

【図６３】

〈ｉｎｆｒａ〉 インフラ情報（地上波、スカパー、ＢＳ－Ｄなど）〈/ｉｎｆｒａ〉～63-A

〈ｓｔａｔｉｏｎ〉放送局名 〈/ｓｔａｔｉｏｎ〉～63-B

〈ｙｅａｒ〉 放送年 〈/ｙｅａｒ〉～63-C

〈ｍｏｎｔｈ〉放送月 〈/ｍｏｎｔｈ〉～63-D

〈ｄａｔｅ〉 放送日 〈/ｄａｔｅ〉～63-E

〈ｓｔａｒｔ〉放送開始時間 〈/ｓｔａｒｔ〉～63-F

〈ｅｎｄ〉 放送終了時間 〈/ｅｎｄ〉～63-G

〈ｔｉｔｌｅ〉番組タイトル 〈/ｔｉｔｌｅ〉～63-H

〈ｅｘｐｌａｎａｔｉｏｎ〉番組説明 〈/ｅｘｐｌａｎａｔｉｏｎ〉～63-I

〈ｉｎｆｏ〉 ほかの情報 〈/ｉｎｆｏ〉～63-J

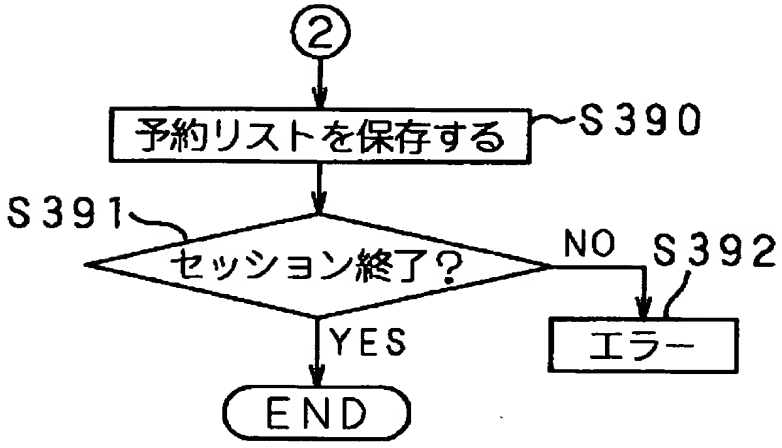
〈ｃｏｍｍａｎｄ〉操作コマンド 〈/ｃｏｍｍａｎｄ〉～63-K

〈ｖｅｒｓｉｏｎ〉ＡｃｃｅｓｓＰｒｏｔｏｃｏｌＶｅｒｓｉｏｎ情報 〈/ｖｅｒｓｉｏｎ〉～63-L

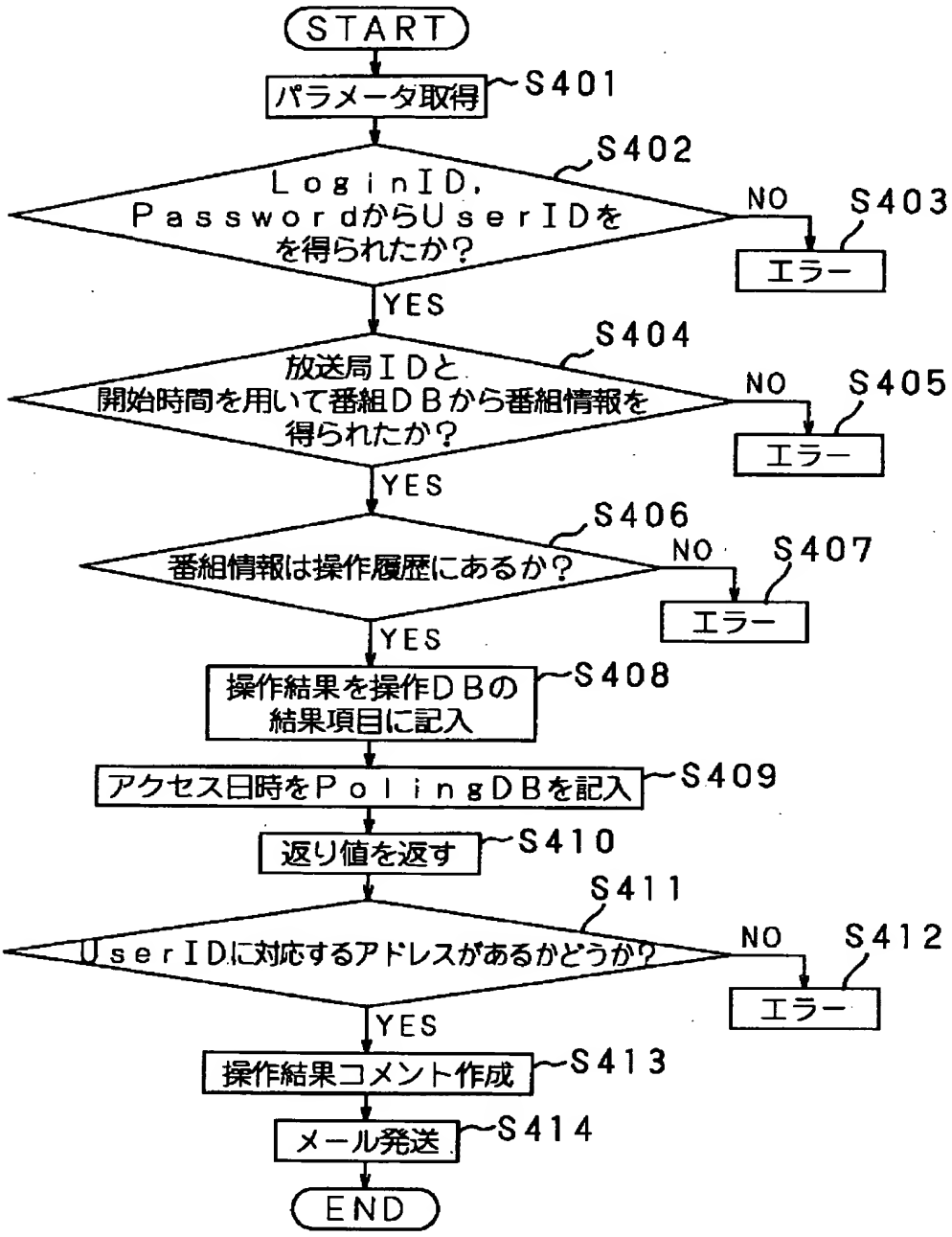
【図６４】

```
〈GPOperation〉
        〈TVProgram〉
        〈infra〉**〈/Infra〉
        〈station〉**〈/station〉

        〈/TVProgram〉

        〈TVProgram〉

        〈/TVProgram〉
〈/GPOperation〉
```

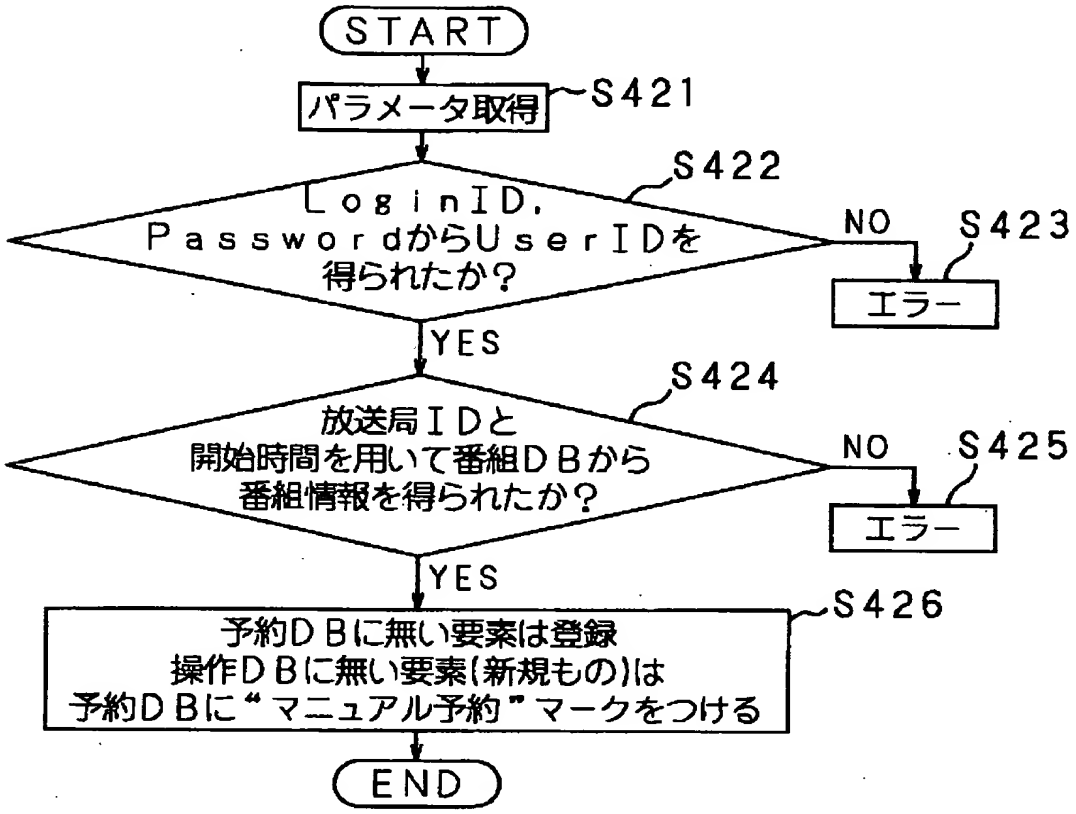
【図６５】



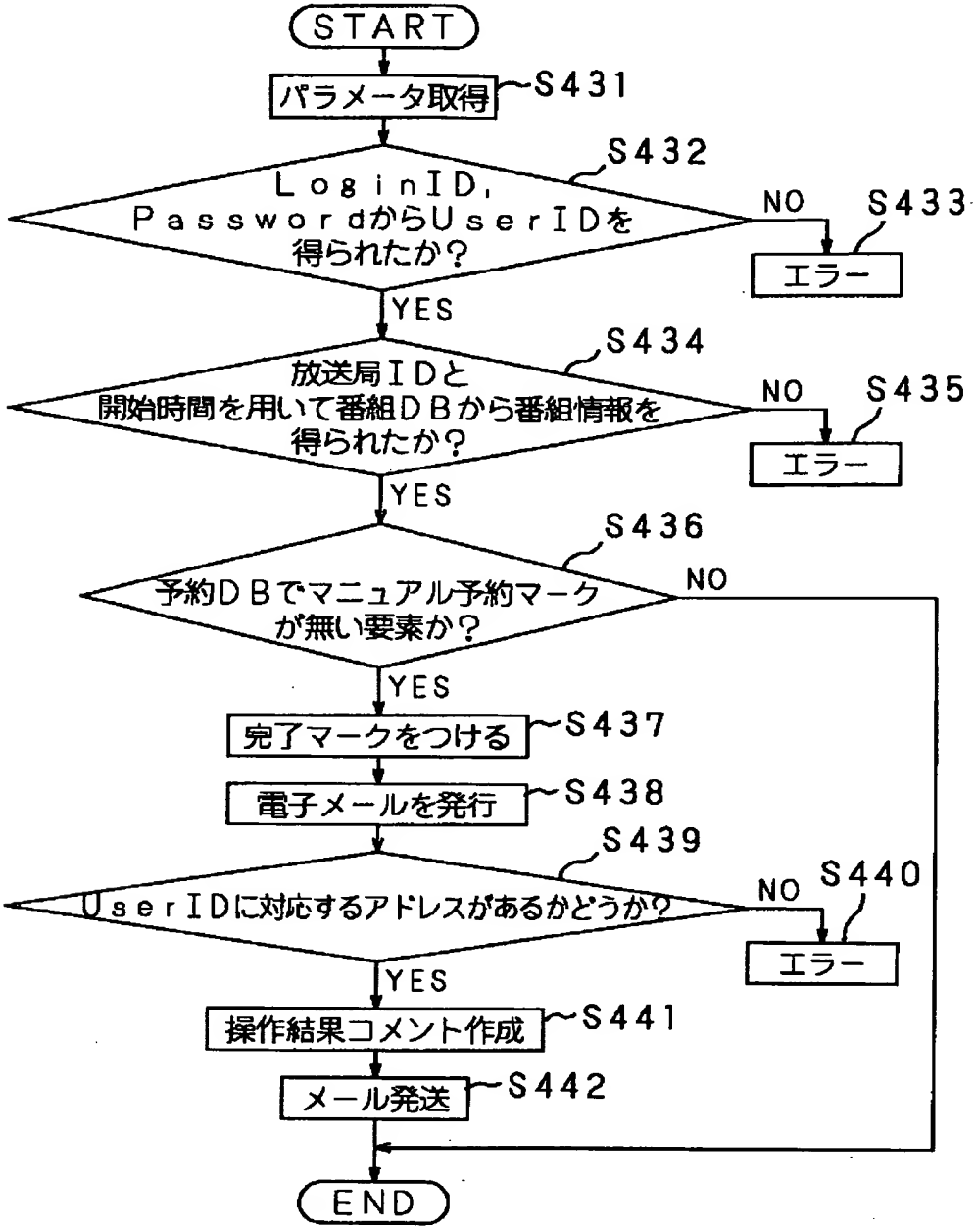
【図６６】


START
パラメータ取得
S401
LoginID,
PasswordからUserIDを
を得られたか？
S402
NO
S403
エラー
YES
放送局IDと
開始時間を用いて番組DBから番組情報を
得られたか？
S404
NO
S405
エラー
YES
番組情報は操作履歴にあるか？
S406
NO
S407
エラー
YES
操作結果を操作DBの
結果項目に記入
S408
アクセス日時をPollingDBを記入
S409
返り値を返す
S410
UserIDに対応するアドレスがあるかどうか？
S411
NO
S412
エラー
YES
操作結果コメント作成
S413
メール発送
S414
END

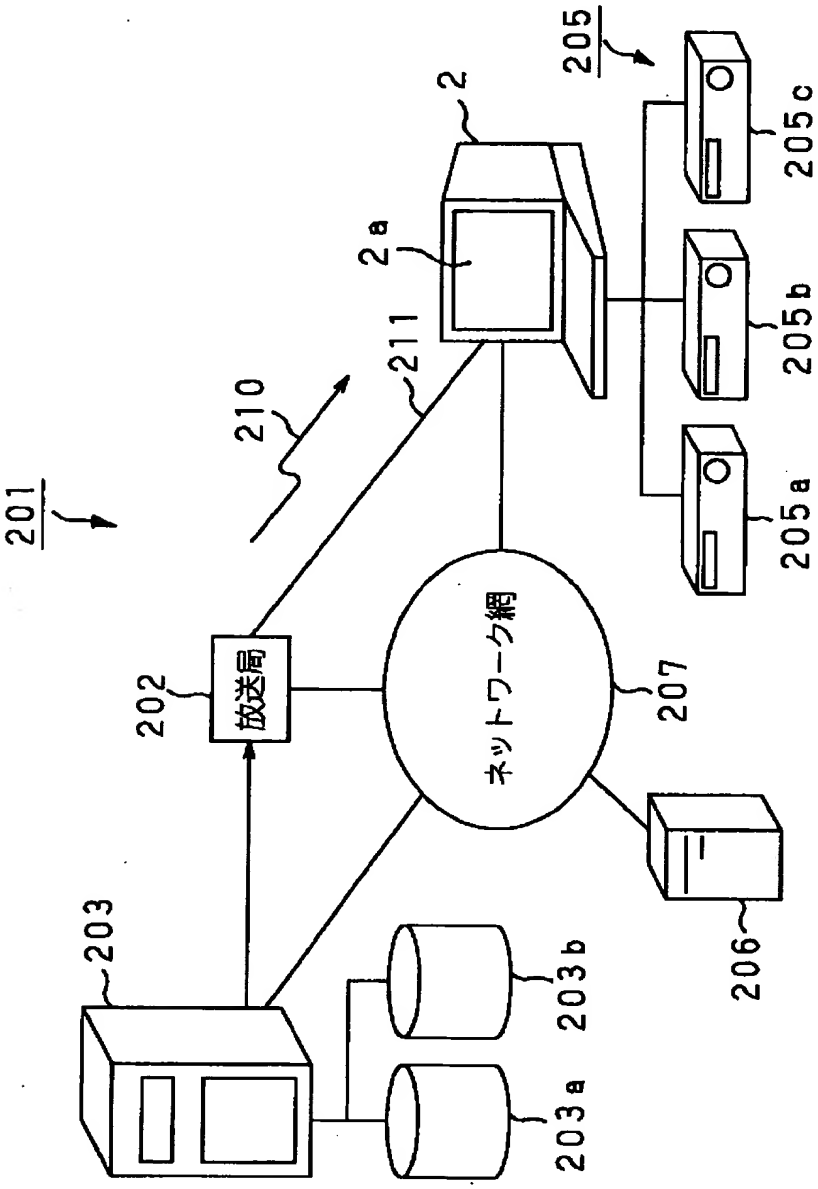
【図６７】


START
パラメータ取得
S421
LoginID,
PasswordからUserIDを
得られたか？
S422
NO
S423
エラー
YES
放送局IDと
開始時間を用いて番組DBから
番組情報を得られたか？
S424
NO
S425
エラー
YES
予約DBに無い要素は登録
操作DBに無い要素(新規もの)は
予約DBに“マニュアル予約”マークをつける
S426
END

【図６８】


START
パラメータ取得
S431
LoginID,
PasswordからUserIDを
得られたか？
S432
NO
S433
エラー
YES
放送局IDと
開始時間を用いて番組DBから番組情報を
得られたか？
S434
NO
S435
エラー
YES
予約DBでマニュアル予約マーク
が無い要素か？
S436
NO
YES
完了マークをつける
S437
電子メールを発行
S438
UserIDに対応するアドレスがあるかどうか？
S439
NO
S440
エラー
YES
操作結果コメント作成
S441
メール発送
S442
END

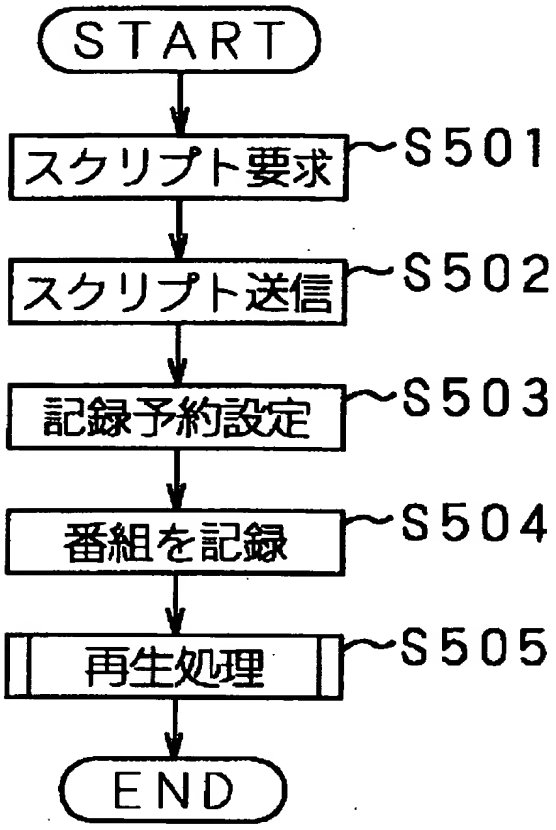
【図６９】


201
210
211
2
2a
205
205c
205b
205a
放送局
202
ネットワーク網
207
206
203
203b
203a

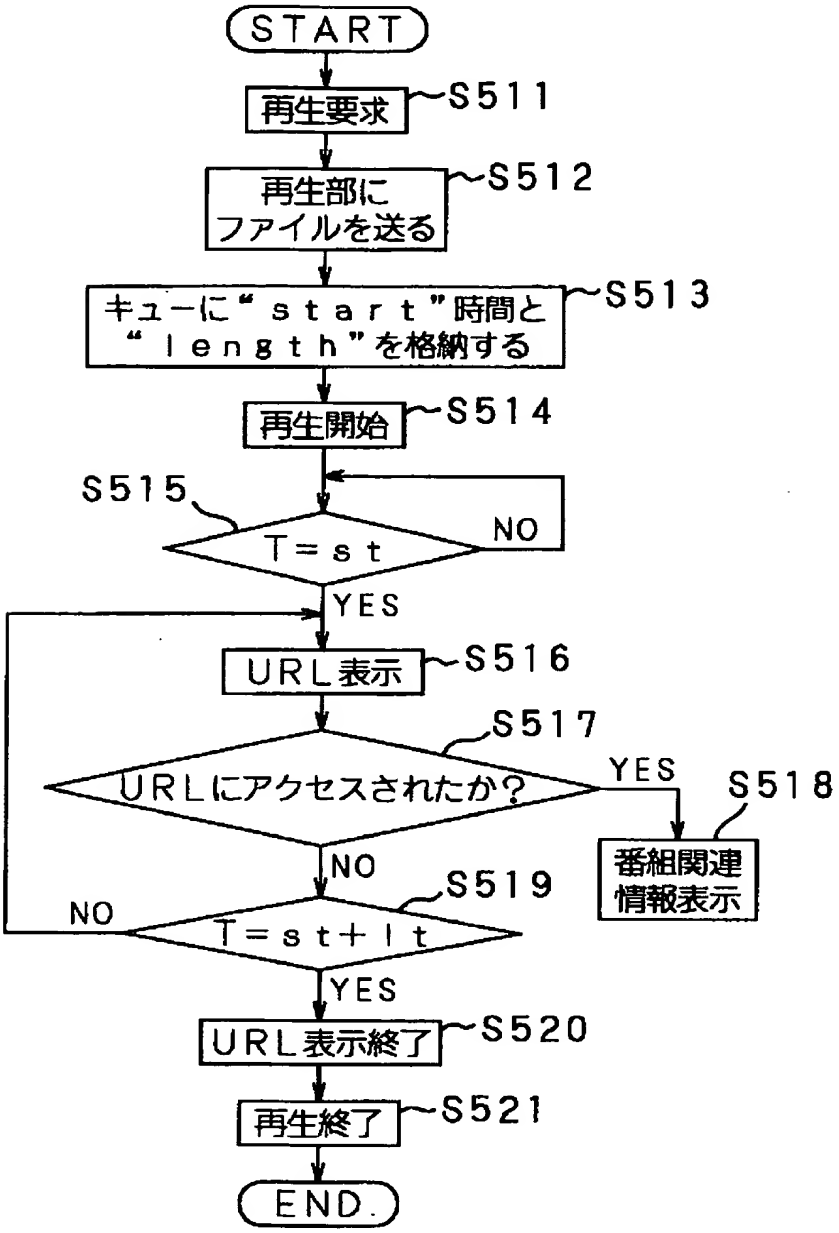
【図７０】

```
20a
Content-type:application/x-tv-program-info;charset=shift_jis
version:1
station:OX放送
year:2000
month:10
date:10
start:08:30
end:09:00
program-title:OΔ連続ドラマ
O本Δ馬　Δ市 X O太　X泉 O之助

20b
<body>
<walt time 00:00:01:00>
<group>
<start 00:00:01:00 length 00:00:01:00>http://www.OX.or.jp/pr/bangumi/asadra/asadra1.htm
<start 00:00:01:00 length 00:00:01:00>http://www.OX.or.jp/pr/bangumi/asadra/asadra2.htm
</group>
<start 00:00:02:00 length 00:00:10:00>http://www.OX.or.jp/pr/bangumi/asadra/asadra3.htm
<start 00:00:12:00 length 00:00:05:00>http://www.OX.or.jp/pr/bangumi/asadra/asadra4.htm
<start 00:00:17:00 length 00:00:05:00>http://www.OX.or.jp/pr/bangumi/asadra/asadra5.htm
<start 00:00:22:00 length 00:00:05:00>http://www.OX.or.jp/pr/bangumi/asadra/asadra6.htm
</body>
```

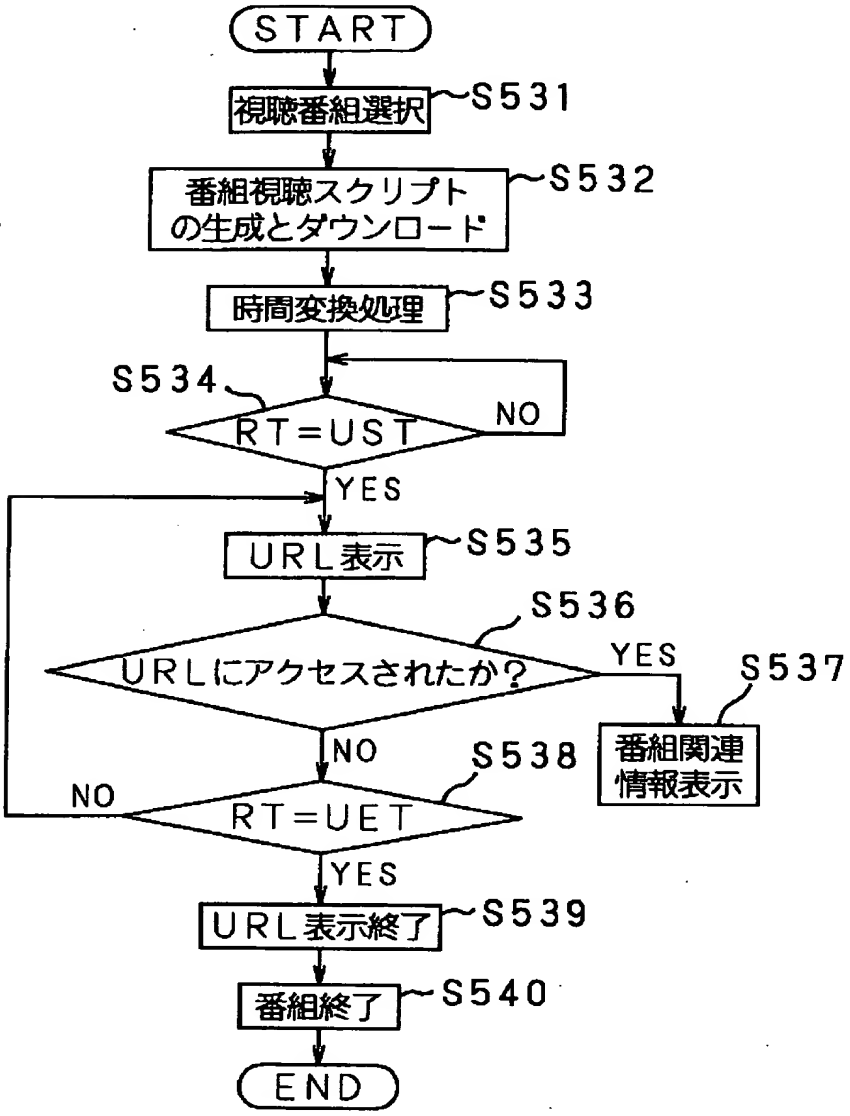
【図７１】


START
スクリプト要求
S501
スクリプト送信
S502
記録予約設定
S503
番組を記録
S504
再生処理
S505
END

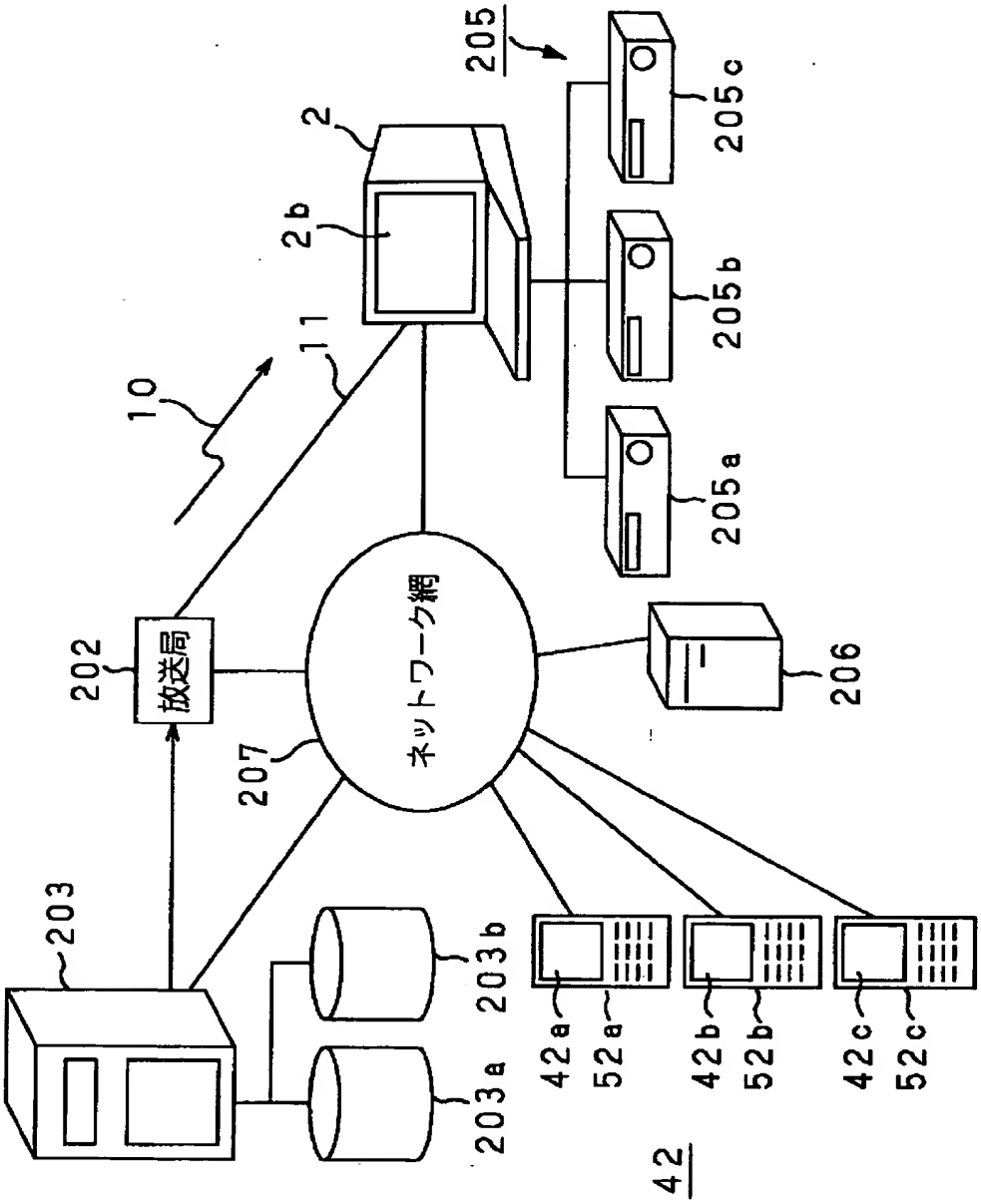
【図７２】


START
再生要求
S511
再生部に
ファイルを送る
S512
キューに“ｓｔａｒｔ”時間と
“ｌｅｎｇｔｈ”を格納する
S513
再生開始
S514
S515
T＝ｓｔ
NO
YES
URL表示
S516
S517
URLにアクセスされたか？
YES
S518
番組関連
情報表示
NO
S519
NO
T＝ｓｔ＋ｌｔ
YES
URL表示終了
S520
再生終了
S521
END

【図７３】


START
視聴番組選択
S531
番組視聴スクリプト
の生成とダウンロード
S532
時間変換処理
S533
S534
RT=UST
NO
YES
URL表示
S535
S536
URLにアクセスされたか？
YES
S537
番組関連
情報表示
NO
S538
RT=UET
NO
YES
URL表示終了
S539
番組終了
S540
END

【図７４】


205
205c
2
2b
205b
11
10
205a
ネットワーク網
202
放送局
206
207
203
203b
203a
42a
52a
42b
52b
42c
52c
42